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ORIGINAL ARTICLES.

OSTEOPLASTIC OPERATION FOR LOSS OF SUBSTANCE OF THE TIBIA. SKIA- GRAPH SHOWING RESULT.

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THE following case is deemed worthy of record, because it exemplifies a rather rare surgical operation, and also because the result, as shown by the skiagraph, is quite different from what might have been reasonably surmised from the history of the operation, from inspection after recovery, and even from the most careful palpation.

M. S., a boy nine years old, was run over by a horse-car, early in June, 1894, and sustained a compound comminuted fracture of the right tibia, with severe laceration of the soft parts. There had been a left coxitis resulting in ankylosis some years before, but otherwise the boy was healthy. Severe infection, with profuse suppuration, so menaced the life of the patient that a surgeon, who saw him a few days later, entertained the idea that amputation would be necessary. On June 8th, about six days after his injury, his parents brought him to Mount Sinai Hospital, where I at once proceeded to drain the wound by several ample incisions. The tibia had been split and comminuted throughout almost its whole shaft, but by some lucky chance the fibula was intact. Many little detached pieces of perfectly dead bone were removed, and it was found that from two to two and a half inches of the lower third of the tibia was gone. The destruction of tissue had been so great that daylight could be seen through the leg for a space fully as large as a half-dollar. Recovery from this operation was slow but uninterrupted. Several pieces of dead bone were removed at various times, but finally every sinus closed. The limb was, however, useless without the aid of splint and crutch, the loss of tibial substance allowing the foot to flap about in rotation around the unbroken fibula. An aluminum splint was now ordered, and the boy was allowed to walk about with the aid of crutches in the hope that ossification of the interposed fibrous tissue might take place. I did not see the patient again for several months, and it was

then noted that the head of the fibula had been apparently pushed away from its attachment to the tibia and projected well above the knee-joint, causing a deforming protuberance.

On July 23, 1895, fully ten months after recovery from the previous operation, I again operated to try to restore the function of the limb by

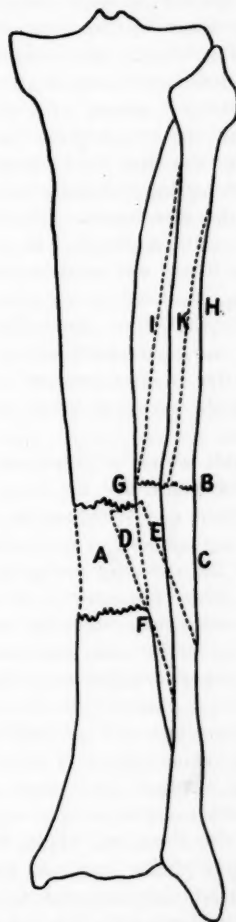


DIAGRAM OF OSTEOPLASTY.

tibio-fibular osteoplasty, an operation suggested by success in similar cases in the hands of Gers-ter, Sands, and others. A longitudinal incision was made over the hiatus in the tibia, *A* (see diagram), all non-osseous tissue between the two ends of bone was removed with the knife, the

bone itself being freshened with the chisel. A long incision was now made over the fibula and an osteotomy was performed, cutting the fibula at a point, *B*, just above the lower extremity of the upper tibial fragment. The lower fibular fragment, *C*, was now tilted inward in such a manner that its side rested against the lower piece of tibia, and its end rested against the end of the upper tibial fragment, as is shown by the dotted lines *D* and *E*. At *F* and *G*, holes were drilled through fibula and tibia and the bones were fastened together with thick twisted silk. The upper piece of fibula was held by the bandage so that it slanted toward the tibia in a position something like that shown by the dotted lines *I* and *K*, but it was not sutured. The skin wounds were now entirely closed with catgut stitches, and a firm dressing with a plaster of paris splint was applied over all and was kept in place for three weeks, when, at the first dressing, all was found to be healed, excepting two small sinuses, through which, later, the silk sutures and a small, loose piece of bone were removed. Bony union was very slow, and it was not until November, 1895, that I felt safe in allowing the splint to be discarded. Since that time the patient has been perfectly well and walks with only a very slight limp, which is due to his ankylosed left hip. The head of the fibula has returned to its normal position.

The skiagraph, which accompanies this paper, was very kindly made for me by a gentleman who modestly, but firmly, refuses to allow me to refer to him by name. The picture, though taken through the stocking and at a distance of fifteen inches from the source of energy, has been in its lower part somewhat overexposed. The view is a posterior one, which accounts for the seemingly reversed relations of the bones. It will be seen at a glance that the result is an almost normal position of tibia and fibula, with a very thick and dense bridge of bone connecting them obliquely. A faint light streak in the lower part of this bridge seems to indicate the medullary canal of the displaced fibula, but the free end of the upper fibular fragment has separated from the tibia and has assumed its normal position, being connected with the lower fragment of fibula by this same bony bridge. How this state of affairs was brought about, only a series of skiagraphs, taken at different times during the healing process, might have disclosed. It is, however, probable that if the light streak referred to is in reality the marrow canal of the fibula, that the upper fibular fragment assumed its nor-



mal position before the ossification of the callus. The new bone is evidently denser and stronger than the normal, which accounts for the perfect functional result. The boy was presented at the meeting of the Surgical Society of March 25th.

THE CLINICAL ASPECT OF CHRONIC DIFFUSE NEPHRITIS.¹

BY J. C. BIERWIRTH, M.D.,
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My observations during the past ten years have impressed me with the idea that chronic diffuse nephritis is among the most frequent, if not *the* most frequent, disease in persons past middle life. This thought has grown stronger with every year, and often I have been appalled by the large number of cases seen in one year. There is also probably no disease which presents so varied a clinical picture, frequently made up of a series of vague and indefinite symptoms, difficult to diagnose, and hence often misinterpreted. In presenting this subject I desire to make a plea for an early diagnosis and the adoption of proper means for the comfort of the patient, and to guard him from the dangers, both immediate and remote, which appertain to this disease.

To my mind the classification of renal diseases made by Delafield² is the simplest and clearest. He divides them into acute and chronic parenchymatous, acute and chronic interstitial, and acute and chronic diffuse nephritis, and adds "that this classification seems to me to be theoretically correct, but yet I must admit that from a clinical standpoint nearly all the cases may be conveniently arranged into the two classes of acute and chronic Bright's disease." Under parenchymatous nephritis he includes all kidneys in which the lesion is confined to the epithelial cells lining the tubules and the capsules of the glomeruli; under interstitial nephritis, all those kidneys in which the lesion is in the stroma, and under diffuse nephritis, all those kidneys in which the lesion is in the tubes glomeruli, stroma, and arteries.

Chronic diffuse nephritis is more frequent in males than in females, and occurs chiefly in persons past middle life. Constitutional syphilis, intemperance, and privation, are counted among the most prolific causes. My personal experience has led me to think that the disease is especially frequent among brain-workers, among men whose nervous systems are continually on an over-strain, who have large business responsibilities,

and who, as a rule, lead temperate lives. Whether their continuous strain leads first to changes in the arteries, owing to a faulty innervation and nutrition, and through these to changes in the kidneys, I am not able to state, but I incline to this belief. Chronic diffuse nephritis also occurs frequently in the course of all chronic diseases, such as phthisis, cirrhosis of the liver, emphysema, chronic suppurative processes in the bones or any part of the body, and especially in chronic gout and rheumatism.

As already stated, there is no disease which has so varied a train of symptoms. This will not seem strange when we consider that the symptoms are not dependent on the kidney lesions alone, but on the associate lesions as well. Of these, the changes in the heart and circulation have a far-reaching influence, and may produce symptoms in other organs, of such intensity as to mask entirely the original disease. The degree of the various lesions also modifies and changes the clinical picture, often to such an extent that we are for a long time in doubt as to diagnosis. The changes in the kidneys often escape notice of the patient entirely and he usually does not seek advice until circulatory disturbances make their appearance. Life insurance examinations discover many unsuspected cases. Disturbances of vision lead many to consult an oculist to whom changes in the retinal vessels and fundus reveal the first suspicion of the real malady, and of which the subsequent analysis of the urine is usually confirmatory. In some cases these retinal changes are the first symptoms, even before the urine gives any evidence of kidney disease, and these cases, I think, belong to the class where arterial changes are the cause of the nephritis. It would be impossible to enumerate all the different ways in which the disease may first show itself, but the chief interest is centered, no doubt, in an early diagnosis, for it is only in the beginning of the disease that treatment and advice may be of any benefit to our patients. They usually consult us about disturbances in any one of the organs of the body except the kidneys. Upon questioning them we find that they feel tired, suffer easily from headache, have occasional nausea and vomiting, have lost flesh and strength, and are not able to do their work properly. Upon examination we find them more or less anemic and listless, with an accelerated pulse, often an increased arterial tension and some hypertrophy of the left ventricle. There is usually present a slight degree of edema of the lower extremities, not sufficient to be noticed by the patient, but easily found when sought for by pressure over the

¹ Read before the Kings County Medical Association, February 11, 1896.

² The same author's description of these lesions is accepted.

tibia. This is perhaps the most common type of a beginning diffuse nephritis. These cases are often mistreated until an examination of the urine discloses their true nature. Others again complain of more or less severe neuralgic pains in different parts of the body, which do not yield to the usual remedies. These cases are rather of common occurrence, and I look with especial suspicion upon those complaining of severe attacks of sciatica. The pain may be due to a gouty or rheumatic diathesis, but in four cases seen during the last two years chronic Bright's disease existed.

One of these cases, a man, about fifty years of age, came to me suffering severely from sciatic pain. He was rather pale, pulse ninety and higher upon slight exertion, disturbances of digestion and some headache. He had slight edema over the tibia but had not noticed it, and did not think there was any change in the urine. The record of the urinary analysis showed: quantity, 38 oz.; sp. gr., 1016; albumin a trace; urea, 8 grs. per oz., or 304 grs. per 24 h., a few hyaline casts. The patient improved under treatment, but had a second and more severe attack of sciatica the following year, and died early this winter from an acute exacerbation of his chronic Bright's.

The other three cases have had several attacks, usually one each winter, but they are in good and fair health after the pain has subsided.

Another form in which this disease first shows itself is by a chronic cough, due to edema of the lungs. A case in illustration is the following:

A woman, about 60 years of age, consulted me in December, 1891, for a persistent and distressing cough, which she had had every winter for a number of years. She had been attended by three or four different physicians, each of whom had prescribed a cough mixture, with usually little or no benefit. An examination of her chest showed two or three patches of edema over the right lung, without any further lesion in the parenchyma or bronchi. Her temperature was normal, pulse rapid with moderate increase in tension and cardiac dilatation with some hypertrophy. The analysis of her urine showed decided evidence of renal changes. In the past five years she has had several acute exacerbations, from one of which I did not think she would recover. In the last attack she had general anasarca with much diminished urine and marked disturbance of heart and circulation. She recovered, however, and has been in very fair health during the past two years.

Repeated conjunctival hemorrhages have led me to discover renal disturbances of a grave character in cases where no other symptoms were present. There are other examples in which this disease comes to the surface, in the form of pains in the muscles of the extremities or trunk,

analogous to rheumatism, but which are really due to excrementitious matters circulating in the blood, and not eliminated by the diseased kidneys.

The majority of cases of chronic diffuse nephritis under proper care and surroundings will go on for a number of years without getting much worse, but they are continually liable to acute exacerbations, one of which may end fatally, even though the pre-existing chronic disease has not advanced far. Cases are very apt to die if they are attacked by any severe illness, especially pneumonia. Individuals may have atrophied kidneys for years without presenting any symptoms, a suddenly fatal attack of uremia, brought on by exposure to cold and wet. The first evidence of the disease in others will be a sudden and severe attack of dyspnea, usually at night. While others again are attacked by pleurisy or pneumonia, or sustain some severe injury, when the inflammation of the kidneys will suddenly show itself.

The urine in chronic diffuse nephritis presents certain well-marked changes, although very variable in character. The amount in twenty-four hours is increased, in diabetes mellitus, diabetes insipidus, and in chronic Bright's disease, and it is diminished in all acute forms of renal disease, and in all diseases accompanied by high fever. In chronic diffuse nephritis we find the action of the kidneys by no means uniform, and we cannot lay down any law for our guidance. In my experience, I have found the quantity of urine but little altered from the normal, in quite a large percentage of cases it is rather diminished, to forty or thirty-five ounces, but in an equally large percentage of cases it will be found to be increased to sixty or seventy ounces, or to be normal. I believe, however, that in the course of every case of chronic diffuse nephritis, the amount is diminished at various times, and certainly always toward the end of the disease.

The specific gravity, however, falls regularly below the normal and, as a rule, varies between 1010 and 1016. Even if the quantity of urine is lessened, the specific gravity does not correspondingly increase. In some cases in which the quantity is increased to seventy ounces or more, it will fall to 1008 or 1005.

Albumin is present in nearly all cases, but usually only in small amount, the majority of cases showing a trace. If the urine shows a large quantity of albumin, the case is one of acute or chronic parenchymatous nephritis, or an acute exacerbation of a chronic diffuse nephritis. In

some cases, for a longer or shorter period, albumin may be absent; these, I think, are cases in which the kidney lesions are not far advanced and in which the albumin is the result of temporary circulatory disturbances.

Casts are to be found in nearly all cases, but in some they too may be absent for a varying period of time. Hyaline casts, of a very delicate structure and often difficult of detection, are chiefly found, although granular casts and an occasional epithelial cast may make their appearance from time to time.

The quantity of urea is regularly diminished in chronic Bright's disease. Allowing for considerable normal variations, physiologists state the amount in health to be about 500 grains in the twenty-four hours. In cases of chronic diffuse nephritis which have come under my notice, the amount has rarely been more than 350 grains, and as a rule, 300 grains or less. The other solids, phosphates, urates, chlorides, and sulphates, are usually diminished.

As the disease progresses we find a greater uniformity of symptoms. Owing to the faulty elimination of urea the cerebral symptoms, such as headache, vertigo, convulsions, or coma, make their appearance and become more frequent. The gastric disturbances are more severe and persistent, vomiting being of frequent occurrence, edema of the feet and legs becomes more marked, and is noticed by the patients, and toward the end it usually goes on to general anasarca. Attacks of edema of the lungs are of frequent occurrence. Dyspnea is now a more constant symptom, at first only upon going upstairs, then upon slight exertion, and finally it becomes continuous. The pulse becomes more accelerated, is irregular and intermittent, and the arterial tension is high. In some cases the patients die from an attack of uremia, in others from the general anasarca and exhaustion, an attack of pneumonia, or an effusion into the lateral ventricles of the brain. An acute exacerbation may prove fatal at any time in a patient in whom the chronic diffuse nephritis had previously produced but little disturbance, and these acute exacerbations are the source of greatest danger to the patients suffering from the disease.

Having obtained one of the above-enumerated histories, our diagnosis naturally depends upon an analysis of the urine, and it is owing to the lack of proper care and precaution in this that so many cases escape detection. It should be made the rule that only a specimen of the entire twenty-four hours secretion be examined. If we

take a specimen from any part of the twenty-four hours, and do not find it to contain albumin, we can never positively assert that the kidneys are not diseased. Furthermore, we must bear in mind that one analysis is not conclusive, for albumin and casts may be absent for quite awhile, and, if we do not find them at first, one or two analyses per month, made during a period of six months, will usually clear up the case. It is also necessary to know the exact quantity secreted during the twenty-four hours, so as to be able to determine the total amount of urea and other salts. The search for albumin is usually our first step in the analysis, and owing to the fact that in chronic Bright's disease it is usually present in only very small amounts, a trace, its detection is often difficult, and unless great care be exercised, it is not found. The urine to be examined should first of all be perfectly clear, as otherwise a slight turbidity cannot be detected. Fresh urine can be rendered clear by one or two filtrations through a double wet filter. If not successful the addition of a small portion of caustic potash will precipitate the earthly phosphates, which carry down the remaining impurities. Should the specimen continue cloudy after filtering out the earthly phosphates, the addition of a few drops of the magnesia mixture will cause a copious precipitate of the alkaline phosphates, leaving the urine perfectly clear after filtration. The tests employed for the detection of albumin are so numerous that it is impossible to treat of all of them here. Every one who is in the habit of making frequent analyses of urine accustoms himself to one or two tests and disregards the rest. I have used and tried most of them, but of late have confined myself to two: the heat and nitric acid and the ferro-cyanide of potassium tests. In searching for albumin, we must bear in mind that all urines contain more or less mucin, or, as it should be more properly called, nuclealbumin, which is precipitated by most of the tests used in testing for albumin, including the heat and nitric acid test. The only test which does not precipitate mucin is the ferro-cyanic test. Purdy, in his recent work on "Practical Urinalysis," mentions a test with a saturated solution of chloride of sodium and acetic acid, which is said not to precipitate mucin. I am not familiar with it, but it is easily applied and might be used as an extra test in doubtful cases. My procedure in testing for albumin is usually as follows: Starting with a perfectly clear acid urine, I fill a test tube to the depth of $1\frac{1}{2}$ inches with it, boil it, and add 10 to 15 drops of strong nitric acid,

cork up the test tube and set it aside for 6 to 12 hours. It is necessary to set the tube aside for some time, as in traces of albumin a precipitate often does not make its appearance until 15 or 20 minutes after boiling. The next day the precipitate will have settled at the bottom of the test-tube, leaving the urine clear above. I then boil the specimen a second time, and, if I find that the precipitate does not re-dissolve, I conclude it is albumin.

I believe that if the nitric acid be added in sufficient excess, the mucin present will be held in solution and not interfere with the test unless it be present in considerable amount. Next I test the urine with a five per cent. solution of ferro-cyanide of potassium. I can best explain the application of the test by quoting from Purdy's work on "Practical Urinalysis": "Into the bottom of a clean test-tube is poured 15 to 30 drops of acetic acid; then about two or three times that amount of solution of potassium ferro-cyanide ($\frac{1}{2}\%$) is added, and the two thoroughly mingled by shaking the tube. The urine is next added, to the depth of two-thirds of the test-tube. If albumin be present, it will be precipitated throughout the whole volume of the urine in the form of a more or less milk-like flocculent cloud, according to the albumin present. The ferro-cyanic test applied by the above method avoids the mucin reaction, and precipitates all varieties of albumin, acid and alkaline. On the other hand, it gives no reaction with phosphates, urates, peptones, the vegetable alkaloids, or the pine acids." When these two tests are carried out faithfully as directed, I do not think any trace of albumin will escape detection. I was much gratified to see in a recent paper by E. E. Smith, Ph.D.—"Notes on Urine Analysis"—read before the Section on General Medicine of the New York Academy of Medicine, December 17, 1895, and published in the *New York Medical Record*, January 4, 1896, that he strongly advocates the above-recited two tests for albumin. He adds, however, for the detection of mucin a comparison tube, "an inch of clarified urine is placed in a test-tube, and two drops of dilute acetic acid are added." If a turbidity results in this tube, and a precipitate results from the heat and ferro-cyanide tests, then he ascribes the latter to mucin and not albumin. My experience thus far does not agree with this view; I have not had time to test it sufficiently, but my impression is that the ferro-cyanide test, as given by Purdy, does not precipitate mucin.

The next substance to be tested for is urea,

i.e., to determine the quantity excreted in the twenty-four hours; but I will not occupy your time in describing the mode of making these tests. Excretion of urea in twenty-four hours, in a case of chronic diffuse nephritis, is rarely above 300 grains, but how low the amount may fall without producing cerebral symptoms, is difficult to determine. The tolerance of urea in the blood varies markedly in different persons; some give uremic symptoms when they pass 200 grains or over, while others are perfectly comfortable when excreting only 75 to 100 grains. I am inclined to think that there are other factors besides urea or its derivatives which aid in the production of uremia. The urine of every patient suffering from chronic Bright's disease should be frequently examined for urea, and a daily test should be made when cerebral symptoms are present; for upon the amount of urea, and not upon the amount of urine excreted, depends our treatment and prognosis. We test for albumin and search for casts to make our diagnosis, but when these are once found and the presence of the disease is established, we need not recur to them again, for neither the number and kind of casts nor the quantity of albumin determine the prognosis and influence the treatment, but urea will, throughout the continuance of the case, require our constant attention.

The prognosis of chronic diffuse nephritis is always grave; the cases all end in death sooner or later, but many live for a long time in comparative comfort if properly cared for.

I do not believe that anything can be done to retard the progress of this disease, or remove the existing changes in the kidneys. Such drugs as bichloride of mercury, chloride of gold, arsenic, iodide of potassium, etc., have in my judgment no curative influence on the kidneys. If they do good, they do so by acting as general tonics, by improving the appetite and the condition of the blood. In the beginning of the disease all our efforts should be directed toward improving the general condition of the patients, in the hope that thereby we may retard the progress of the disease. They should live in a climate where this danger is reduced to a minimum, and that is a warm climate, where an out-of-door life is possible. If their means do not permit this change of climate, they should remain indoors during the winter months and live in as equable a temperature as possible. As a rule, they should give up their business pursuits, and live a life of ease and comfort, avoiding all excitement. All vicious habits should be given up, and the use of

alcohol, except perhaps a glass of wine as an appetizer, should be prohibited. The skin should be kept in as active a state as possible, by frequent baths. The diet should be nutritious and easily digestible, and in patients who suffer much from gastric disturbances, it should consist largely of milk. I am in the habit of letting them take but one solid meal per day, the other two meals being composed entirely of milk. Unless valvular disease is a complication, it has seemed to me that the circulatory disturbances are caused chiefly by an obstructed flow of the blood, due to the increase in arterial tension, and, no doubt also, to the obstruction in the renal circulation. The indication for the treatment of these symptoms then naturally suggests such remedies as nitrite of amyl, nitro-glycerin, and iodide of potassium. The first is rarely indicated except during an attack of uremic coma, or convulsions with high tension and a bounding pulse. Nitro-glycerin is certainly one of the most valuable remedies which we possess in this disease. Some patients have to take it more or less all the time. I usually give it in tablet form, $\frac{1}{100}$ of a grain every two, three, or four hours. If the tension is great it may be given every fifteen minutes until the pulse becomes soft, and then the interval may be lengthened to one or two hours. Iodide of potassium is certainly the best drug in this disease; it fulfills all the requirements by producing a dilation of all the arteries and maintaining it, and producing little or no disturbance if given in some bitter infusion, sufficiently diluted, and only after meals. My patients usually take it for two to three months at a time, in doses from fifteen to twenty-five grains daily. If the heart's action is too rapid, aconite in small doses is a valuable remedy, and if a cardiac stimulant is needed I prefer the fl. ext. of convallaria in ten to fifteen-drop doses, three or four times daily. Digitalis is in my experience objectionable, because of its great tendency to derange the stomach, and to increase arterial tension. Strophanthus is valuable, and iron and oxygen are excellent as general tonics. During an acute exacerbation the patient should be put to bed and kept on an exclusively milk diet, with applications of dry-cups over the kidneys, followed by hot fomentations. When the disease is far enough advanced to produce uremic symptoms, such as headache, twitching of the muscles, convulsions, coma, the more active measures, such as sweating and purging should be employed. Opium is, I think, a valuable remedy, although a dangerous one, in these conditions.

PHARYNGO-MYCOSIS LEPTOTHRICA.¹

BY JAMES T. CAMPBELL, M.D., M.R.C.S.,
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ALMOST all the cavities and the tubes of the body, which communicate with the exterior (e.g. alimentary tract, vagina, urethra, etc.), contain bacteria in abundance, even under normal conditions. The mouth is the natural habitat of many pathogenic and non-pathogenic organisms. Ordinarily the pathogenic organisms do no harm, sometimes however, they are capable of giving rise to disease. Thus, while the majority of us carry about with us constantly in our mouths the micrococcus lanceolatus, comparatively few individuals develop a croupous pneumonia. To the group of harmless organisms in the mouth belongs the ordinary leptothrix buccalis; it is almost constantly present, even in health, on the gums and between the teeth, and the finding of it, as a rule, would therefore be of no particular interest.

But, under certain circumstances, this organism can give rise to peculiar phenomena in the pharynx and grow in the form of characteristic colonies. The condition of the pharynx was named by B. Fraënkel,² in 1873, pharyngo-mycosis leptothrica. Jacobson³ suggested that the name be changed to algosis faucium leptothrica, since it is now known that the leptothrix must be classed among the algæ and not among the fungi. Subsequent writers, however, have retained the older nomenclature.

The disease affects the following parts in order of frequency: the tonsils, the base of the tongue, the glosso-epiglottic fosses, the posterior and lateral walls of the pharynx, the faucial pillars, the naso-pharyngeal vault, the upper part of the esophagus and the nasal fossa. Ackermann⁴ has recently reviewed the whole subject in an address before a medical society in Griefswald, and describes at length the clinical and pathological phenomena met with in the disease. The colonies present a white or yellowish-white appearance, and form soft or horny polypoid masses or flat excrescences. In the tonsils they occur most often in the crypts. According to Heryng, the spreading may occur in two ways: (1) Through the formation of superficial excrescences upon the mucous membrane, which appear more or less bulging and firmly adherent. (2) Through the formation of wedge-like triangular processes

¹ Read before the Chicago Medical Society, December 2, 1895.

² 56th Versamml. deut. Naturforscher und Aerzte in Freiburg.

³ Volkmann's kl. Vorträge, 1887.

⁴ Deut. Med. Woch., 1894, No. 46.

which break through the epithelium, and may extend deep into the parenchyma of the tonsil. As a rule, both tonsils are affected. At the base of the tongue the circumvallate papillæ and crypts are frequently affected. In many cases the disease is associated with an unusual amount of mental depression, which increases the deterioration of the general health; in others the subjective symptoms are but slight. The disease is usually discovered accidentally.

The symptoms complained of by the patient generally consist of a slight tickling, dryness, or burning in the throat; there may be slight dysphagia and sometimes a slight cough. Rarely there may be fever or anorexia.

As regards the etiology, little is definitely known. It was formerly thought to be secondary to caries of the teeth. Miller states, however, that the diseases of the teeth are due to other parasites, and that in them the leptothrix appears only secondarily. Adults are generally affected, females suffering more frequently than males.

Diagnosis.—When one has once seen a case the diagnosis can be made without the microscope. The condition must be distinguished from *lacunal tonsillitis*, a disease with an acute febrile onset, general constitutional symptoms, swelling and reddening, in which the flecks are soft and friable, readily separable, and easily raised with a probe; from *tonsillar concretions*, which can be easily enucleated, do not recur after removal and often disappear without treatment; from *herpes angina*, which invades the arch of the palate; from *diphtheria*, a disease in which there are severe general and local symptoms. The membrane is firmly adherent, requiring some force for removal, and then leaves a bleeding surface. Cultural methods establish the diagnosis; from *syphilitic plaques*; from *tuberculosis*; from *thrush* or *soor*; from *pemphigus*.

Course.—Generally very obstinate. The plugs artificially removed often return; occasionally there is a spontaneous cure. All agree that antiseptic solutions and astringents are insufficient. The best results are obtained by removal with forceps and cauterization.

The following case illustrates well the main characteristics of the disease:

Miss M., aged eighteen years; consulted me on September 16, 1894. In December, 1890, she suffered from a severe attack of diphtheria which seemed to have left the throat hypersensitive, since slight exposure invariably resulted in "sore throat," with accompanying white patches on the tonsils. These spots or patches, together with the soreness, usually disappeared in the course of three

or four days under the employment of simple gargles. At no time had the spots remained longer than one week. These attacks came on at all seasons of the year, but more frequently during the colder months. In November, 1893, she contracted scarlet fever, and had again a very sore throat. Attacks of "sore throat" reappeared at intervals of about two months up till August, 1894, at which time, after the repeated employment of the usual gargles, it was observed that, though the soreness had passed away, the white spots remained. These have been present constantly till September, 1894, at which time I first saw the patient and made the following note: Over the whole surface of both tonsils and a small part of the adjacent post-pharyngeal wall are yellowish-white dots, corresponding in the main to the crypts normally found in these regions. The pillars of the fauces and tongue are quite free. The dots vary in size and shape, being rounded like millet seeds, mushroom and spur-like; some projecting out from the lacunæ for a distance of from 4 to 5 mm. These plugs look as if they could be easily brushed away, but when seized with the forceps are found to be adherent and very tenacious, so much so that the whole tonsil is drawn forward, and often there is a little bleeding after removal. There is no surrounding inflammatory areola. There are no carious teeth. The patient says that the throat seems dry, and the sensation is as if a foreign body, such as a bristle from a tooth brush or a fish bone, had lodged upon the tonsils. The tongue is clean, the breath not offensive. She complains of some slight physical and mental depression. About one month after first coming under observation a few spots developed on the right side of the base of the tongue adjacent to the tonsil. During the course of the disease there was noticed some apparent fusing of spots to form a small membrane not unlike diphtheritic patches.

A portion of the left tonsil was abscised and sent for examination to Dr. Lewellyn F. Barker, assistant resident pathologist to the Johns Hopkins Hospital, Baltimore, who reports as follows:

"The pieces were fixed in two ways: one set in absolute alcohol, another in sublimate. The alcohol tissues were imbedded in celloidin; the sublimate tissues in paraffin. Sections were stained in hematoxylin and eosin, in safranin, in Lugol's solution, and by Gram's method.

"A few patches are seen upon the surface of the mucous membrane, but in the main the disease process is confined to the crypts, which are filled with fine plugs visible to the naked eye. On microscopical examination these plugs are seen to consist of a central core of horny squamous epithelium, clinging to which are masses of bacteria and bunches of the characteristic leptothrix threads. Shreds of epithelium project laterally from the main core, and between these micro-organisms are abundant.

"The leptothrix masses consist of bundles of threads more or less parallel to one another, which run usually almost at right angles to the central core of epithelium. In some sections, however, long wavy bundles are seen running parallel to the long axis of the crypt. These masses are easily visible in sections stained in hematoxylin

and eosin, but are best differentiated in those stained with Lugol's solution and mounted in glycerin. The iodine stains the starch granules in the threads a deep bluish-black color, and the masses are readily distinguishable from the tissue, or from any other micro-organisms which may be present. In addition to the leptothrix there are masses of bacteria of various kinds, mainly short, rather delicate bacilli, along with clumps of flat epithelial cells and small mononuclear cells situated between the plug and the wall of the crypt. The epithelial lining of the crypt is rather thicker than normal. There is no excess of lymphoid cells in the epithelial wall, though these cells are abundant in the crypts, forming in places masses of considerable size between the plug and the wall of the crypt. In some cases the epithelial core of the plug is directly continuous at the bottom of the crypt with the epithelium of the mucous membrane.

"The patches on the surface of the mucous membrane of the tonsils consist also of flat plates of horny epithelium, to which are attached masses of leptothrix and bacteria. These epithelial plates are separated in places from the surface of the mucosa and in the interspaces, in addition to the masses of the alga, are seen loose, flat epithelial cells, lymphoid cells, an occasional leucocyte with polymorphous nucleus, and aggregations of bacteria. There are no marked alterations in the sub-epithelial tissues, or in the follicles of the tonsils. The *Keimcentra* show numerous mitoses, but apparently not more than are normally present in well-fixed tissues. The curious groups of distorted nuclei noticed at the periphery of some of the sections, and at certain spots in the interior, are probably to be attributed to the action of the alcohol. The case is undoubtedly one of the so-called pharyngo-mycosis leptothrica of B. Fraenkel (*Algis faucium leptothrica* of Jacobson)."

Treatment.—Tonic doses of iron, quinin and strychnin were ordered, and after the individual plugs were pulled out, chromic acid, fused on a fine probe, was applied to the interior of each crypt. The actual cautery was tried but found less satisfactory than the chromic acid. Four months after the commencement of treatment all evidence of the disease had disappeared. Various other methods of treatment have been advised. The consensus of opinion gives to the galvano-cautery the first place. Ruault advises smoking ten cigarettes daily. Baber¹ recommends the local application of alcohol. Nitrate of silver and a whole host of antiseptics have been employed.

Inasmuch as it has been stated that an acid medium is favorable to the development of the spores, Hemenway² suggests that the use of the positive galvanic pole with a large negative cutaneous electrode should be more effective than cauterization.

Since this paper was written, pharyngo-mycosis has appeared on the tonsils of an adult sister of the patient, whose case is herein described, which would indicate the possible contagiousness of the disease.

CLINICAL LECTURE.

GASTRITIS GLANDULARIS CHRONICA.¹

By PROF. FENTON B. TURCK, M.D.,
OF THE UNIVERSITY OF CHICAGO.

GENTLEMEN: In a previous lecture I called your attention to the principal etiological factors of chronic inflammation of the stomach, which are errors of living, diseases of other organs, and neuroses. To these must be added, as potent factors of inflammation, certain saprophytic germs and their toxins, the effects of which will be considered in the present lecture.

When any or all of the factors that I have enumerated have caused an irritation of the mucous membrane, exudation follows, and a sticky material accumulates upon the stomach wall. This material is made up of thick, tenacious, glue-like mucus, in which are found gland cells, leucocytes, food detritus, or remnants of food that are partly digested. The lack of churning power helps to cause retention of food particles. The material alluded to adheres to the gastric mucosa as a sticky mass. It is the best culture medium for the various germs found in the stomach that I have yet been able to procure. In drop cultures, by using this material as the nutrient medium, the stomach bacteria show rapid multiplication. My study has been limited to the pathogenic germs. The special conditions favorable to their growth are food and protection, and they grow better in a constant temperature, such as is maintained in the stomach.

The peptones and albumoses of the stomach are also found in this mucous bed. The gland cells and other epithelial cells contain a rich protoplasm, which is the best class of food, or culture soil, for these stomach bacteria. I have utilized this fact in my method of growing germs upon the sterilized mucous membrane of the stomach of pigs.² The hydrochloric acid of the gastric juice does not markedly interfere with the development of bacteria in this mass. The acid at first is even increased, as the germs multiply, owing to the irritation of the toxins of the growing colonies upon the stomach wall. Mucin not being freely soluble in water, the H_2Cl and HO do not penetrate the mucus sufficiently to destroy the colonies growing in such a rich soil. In cases of this kind I found that the acidity of the mucus was very faint; in other cases the reaction was alkaline or neutral. In ordinary process of digestion the HCl is not secreted, as a rule, unless food is taken into the stomach, when it forms syntonin and other fixed chlorides, so that two or three hours after food has been taken HCl is not, as the rule, found in the stomach. In every case where germs have been introduced into dogs' stomachs, after methods which I have before explained and which I will soon show, I have found evidence of the increase of HCl in the presence of growing germs which were formed upon the stomach wall.

The method I have pursued for obtaining this material from the stomach wall for bacteriological investigation is

¹ *Journal of Laryngology*, February, 1888.

² *MEDICAL NEWS*, Philadelphia, January, 1892.

¹ Lecture delivered by invitation of the Faculty and Trustees of the Jefferson Medical College, Philadelphia, February 10, 1896.

² See *Wiener medicin. Wochenschrift*, Nos. 1 and 2, 1895.

by the gyromele, which I have described elsewhere.¹ After the material has been removed from the stomach by this instrument, slides are made and stained and cultures are made, growing the germs on the mucous membrane of the stomach of a pig (sterilized by fractional sterilization at 60° to prevent coagulation of albuminoids). Bouillon made from the chopped mucous membrane of the pigs stomach forms a rich medium for cultures. Other nutrient media employed are gelatine, agar-agar, and boiled potatoes. These methods have the advantage of furnishing the natural habitat of the stomach bacteria. Cultures can be forced on the mucous membrane of the stomach as it does not melt at the same time, the liquefying germs are shown by little areas, when they liquefy. Many forms grow that do not grow at all upon ordinary nutrient media, and others grow better than they would under other circumstances. Finally, the mucous membrane can be dried and the colonies transported, if desired.

In experiments upon dogs, tannic acid is used every day for two weeks as an etiological factor. This "knocks out" the stomach and makes it a suitable field for germ culture. Now, if we put in the material taken from the walls of the stomachs of patients suffering with gastritis, the germs will grow; the soil has been prepared and the infection is produced. The results observed in the mucous membrane are that the gland cells become cloudy, leucocytes come to the surface, and the pathological picture of inflammation produced is identical with that found in cases of gastritis in the human subject. Material taken from the surface of the mucous membrane is examined, and also bits snipped off by Turck's nippers, designed for this purpose. The small wound left after taking away a small piece of the mucous membrane with this instrument will heal in 24 to 48 hours, leaving no evidence of the lesion.

As the germs grow then certain changes are observed, which appear to be due to the effects of the toxins. In order to settle this positively and learn what effect toxins have, I sterilized them as follows: In the morning, before breakfast, I withdrew the contents of the stomach, filtered through a Pasteur filter, and made the fluid germ-free. When sterile, I injected the fluid in doses of 1, 2, 3, up to 10 cc. to each 1000 grams of the animal. Rabbits at first were used, but subsequently I found common house rats better for the purpose, because they are not so large, are cheap, and can be watched just as well. The separation of the albumoses and peptones from the toxic proteoses of bacterial origin cannot be accomplished practically by chemical means. I have, however, taken advantage of the fact that coagulation of various albumoses takes place at different degrees below the boiling point (100° C.). By producing a vacuum over the filtered fluid taken from the stomach a rapid evaporation takes place, and by heating to 60° C., to 80° C., to 90° C., and up to 100°, various albumoses have been taken out which show marked difference in their effects when injected into the animal.

The normal stomach, when compared with an infected stomach, especially in cases of gastritis with marked dilata-

tion, shows a wide divergence in toxicity of the secretions. In some cases, in the latter condition, 5 cc. has killed 1000 grams of animal when injected. There is also a difference observed depending upon whether the stomach has been cleaned out the night before or not. If the stomach has been washed and no food given, and the gastric fluid withdrawn in the morning, the fluid obtained is not so toxic in effect as in other cases where this procedure has not been followed. The employment of starch food instead of meat also lessens the toxic effect. The explanation of the latter observation is that the germs may grow and furnish a more potent toxin in the presence of albumin than in the presence of starch, or that the albumoses and peptones are more toxic than starch products. When no food at all has been given for twenty-four hours, cases of gastritis show the toxic effect of the injured stomach fluid.

Pathology.—The study of the pathological effect has been upon an artificial gastritis produced in dogs. The stomach of the dog, as before stated, is first treated with daily doses of tannic acid for two weeks, which produces a mild catarrh. The pathological condition allows the thick mucus to adhere to the walls of the stomach, where cells and remnants of food accumulate and in an adherent mass that forms a culture medium for germs. If now the material taken from the stomachs of patients suffering with gastritis is daily introduced, the phenomena of inflammation are rapidly developed; the symptoms observed are an increase in the production of HCl, the ferments become more active and the food is more rapidly propelled into the intestines. By the use of the gyromele, material is now removed from the stomach wall and the material thus secured is subjected to examination. Microscopically, the slides show leucocytes, a few gland cells, and food detritus in a bed of mucus. I now show you one of the dogs, which I have brought with me in the first stages of gastritis. The condition may be studied through a permanent fistula, which I am in the habit of making in a peculiar manner. I make a valvular opening in the anterior wall of the stomach, by following the mucous membrane in such a way as to make a valve similar to the ileocecal valve, so that when a speculum is introduced and a small electric lamp, the whole of the interior of the stomach can be inspected. No leakage takes place at other times, as the valvular fold of the anterior wall prevents the escape of the stomach contents. This I consider the most useful method of operating for gastric fistula. I have performed the operation twice in the human subject for carcinoma of the esophagus.

On examination of the dog's stomach in the first stage of artificial gastritis, the stomach shows, here and there, accumulations of mucus and other material upon its walls. At the points not covered there is hyperemia, as shown by a red coloration of the surface.

I have divided chronic inflammation of the stomach, or gastritis, into three stages for the sake of convenience. Many times the changes characterizing the three stages have been observed in the same animal; but it is better to have some system in describing the morbid appearances. In order to examine the mucous membrane microscopically

¹ International Medical Congress at Rome, 1894. *Wiener Med. Woch.*, Nos. 1 and 2, 1895; *Journal of the American Medical Association*, March, 1895, and *New York Medical Journal*, October, 1895.

ally, to learn the pathogenic changes that take place, it was necessary to secure pieces of the affected mucous membrane from time to time and observe the progress in the inflammatory change. Formerly, I made several laparotomies on the same dog, taking a piece of mucous membrane each time for examination; but many errors crept in. I accordingly devised this instrument which I call "Nippers," which passes down into the stomach through a tube, and when it arrives in the stomach, the nippers or pincers are exposed and a small piece of the mucous membrane is snipped off. This is then submitted to microscopic examination. It is found that the first change to be observed in gastritis is that the gland cells are enlarged and appear cloudy, also numerous leucocytes are noticed at the surface. But the evidences of inflammation are not so marked in this stage as in subsequent examinations, where the progress is more advanced. A far better idea is gained in the macroscopical examination with the electric light. The points especially to be noted are the accumulated mucus on the walls with the marked appearance of hyperemia. In the control dog (normal), a hyperemia occurs on the introduction of anything like a tube, into the stomach; the normal slate color changing to a light pink, but in inflammation, the mucous membrane becomes a bright red color.

After three or four months of this experiment of introducing infective material into a dog's stomach, more marked changes are observed. Not in every dog experimented upon, but in sufficient number to make it evident, there is a decreased formation of the HCl after a period of increased production of HCl. The food remains longer in the stomach, the dog does not eat with the readiness observed in the first stage, when the HCl is increased and the ferments more active. The dog then begins to emaciate. This thin animal that I have brought here to-night, shows this marked disassimilation, yet he is supplied with all the food necessary at regular times. The pieces of mucous membrane removed show more advanced cellular changes. The cells of the glands are so indistinct that they simulate a thick lining membrane. When a piece is secured from the pyloric extremity of the stomach, which is done by pushing the instrument along the great curvature, no distinction can be made, as in the normal condition, between central and parietal cells. Many of the cells are exfoliated, some show a fatty condition, and the specimen I have here, shows mucoid change. This mucoid change may be accounted for by the fact that the peptogenic cell is exhausted and can no longer secrete pepsinogen; but, as irritation continues, it produces mucinogen instead. I know of nothing in pathology of the stomach that makes such a beautiful picture. The cells look like a string of beads lining the glandular tubules, and when projected by the stereopticon, they look like little oval windows, like opals. The cystic degeneration of some of the glands and the mucoid metamorphosis of others, may account for the diminished production of the HCl and ferments. As the process continues, round cells that at first only appeared here and there, now congregate and multiply. The leucocytes entirely coat the surface. Cells become loosened and fall

off; round-cell infiltration takes place with the formation of connective tissue, even down through the mucous coat. This part of the inflammation is what is mostly observed *post-mortem* and in advanced cases of gastritis. The earlier changes that I have observed are entirely lost in the *post-mortem* changes. In order to study these early changes the pieces of mucous membrane must be examined at once after their removal from the living tissue. Formalin is the best to preserve and harden the specimens; glycerin and water is also of value, and may be used.

At times, in the examination of patients suffering with symptoms of gastritis, small fragments of mucous membrane will come out in the wash water. On making slides from these pieces much valuable pathological information is gained. Changes similar to those that I show you in these specimens, of gastritis artificially produced in dogs, may be seen, corresponding to the different cellular changes in the stages of inflammation. The cells of the glands and the leucocytes find their way to the surface and accumulate in the bed of mucus adhering to the stomach wall. When my gyromele is introduced into the stomach, this material is removed by the revolving sponge. When I find the evidences of inflammation so marked in the material thus obtained for examination, I make the diagnosis of gastritis whatever other conditions may be present. The special points noted microscopically are the leucocytes, the altered gland cells, and the colonies of bacteria imbedded in the mucous bed.

In the study of inflammation of the stomach in the embryo it seems that the ectoderm is far more sensitive to irritation than the ectoderm.

Gastritis glandularis chronica is an inflammation that appears the same as inflammation of any other part of the body, the only differences being the location and the peculiar manner in which infection takes place. By the decomposition of food and the growth of micro-organisms in the stomach poisons are produced which may be absorbed and produce local irritation as a general toxic effect, but this is not inflammation nor the direct factor or cause of gastritis. All errors of living, errors of diet, decomposition of food, etc., may be and are powerful etiological factors in producing inflammation of the mucous membrane. Any agent that irritates or changes the mucous membrane, so that material adheres to the stomach wall and allows bacteriological growth to occur in this bed, is an etiological factor in gastritis. As the mucous cells and food detritus accumulate on the stomach wall, germs develop in colonies and form toxins which are freely discharged. Part of the toxins are taken up by the cells beneath, and two changes are observed at the beginning of the process: increase of functional activity and slight changes in the gland cells with migration of leucocytes. The increase of HCl and of the ferments, and increased muscular activity of the stomach are accompanied by hyperemia. The irritation being continued and constantly present; after a time there is exhaustion of the function, a decrease of HCl, or it is entirely absent; there is also diminished ferment production and muscular weakness. The organ becomes easily distensible and dilatation occurs. HCl

may yet be increased or diminished, but as the process progresses there is gradually loss of all function, and, if no stop or change is produced in its course, the inflammation goes on to atrophy and total loss of digestive power.

I have secured a great variety of stomach bacteria in my studies of cases of gastritis, and I can say that it is not the presence of two or three germs that decides inflammatory change, but the group of micro-organisms found in the stomach. When these groups of stomach bacteria, pathogenic or non-pathogenic, colonize in the rich soil found in the mucous layer adhering to the stomach wall, they form toxins, which produce both the functional changes and the pathological phenomena of inflammation. The ability to find these products on the walls with the gyromele has enabled me, by cultivation and experiment, to clear up a few of the mysteries of "Catarrh of the Stomach."

CLINICAL MEMORANDA.

THE CLINICAL STUDY OF FOUR CASES OF INSANITY TREATED WITH THYROID EXTRACT.¹

By WILLIAM E. WRIGHT, M.D.,
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REPORTS upon the therapeutic value of the thyroid gland in the treatment of certain forms of nervous affections have recently been so favorable that one feels that he would be doing himself and his patients an injustice if he did not give the drug a fair trial, and draw his own conclusions as to its value. The beneficial effects of its action in some cases of myxedema can hardly be disputed. Perhaps the flattering results of its action in this affection has entitled the drug to the position it now holds as a therapeutic agent with the dermatologist, as well as the neurologist and alienist.

The theories of the function of the thyroid gland² are reported by Victor Horsley as follows:

First.—That it is for the purpose of preserving the contour of the neck.

Second.—That it acts as a mechanical cushion to protect the important vessels and nerves from compression effects exerted by the contracting muscles.

Third.—That it acts mechanically to support the larynx and improve the voice.

Fourth.—That it acts mechanically, and protectively causes anemia of the brain.

Fifth.—That it acts mechanically, and protectively prevents anemia of the brain.

Sixth.—That it manufactures some substance specially necessary to the integrity and proper functional activity of the central nervous system.

Seventh.—That it is directly a blood-forming organ.

Eighth.—That it is indirectly a blood-forming organ.

Ninth.—That it plays an important part in the metabolism of the sex-organs.

Tenth.—That it modifies or destroys substances which, circulating in the blood, are harmful to the general economy.

From this list of its functions it would seem that the gland plays a more important part in the human economy than has heretofore been accredited to it by physiologists. The drug has been given a trial by many hospital physicians, both in this country and abroad, but to Dr. Louis C. Bruce, Assistant Physician, Royal Asylum, Edinburgh, is due special praise for his careful observations and report of "Thyroid Feeding in Insanity."

It was my good fortune to be serving as clinical assistant on the staff of Royal Asylum, Edinburgh, at the time of some of his experiments with the drug, consequently I was afforded the opportunity of carefully observing the effects of it and noting the results upon the mental affection. Dr. Bruce reports the following cases with the following results, viz:

Three Cases of Acute Mania, All recovered.

Four Cases of Acute Melancholia, Two recovered, one relieved, and one not improved.

Three Chronic Cases, Mania drifting into dementia, of over one year's duration. One male relieved.

Two Cases of Chr. Melancholia, One female of over four year's duration, discharged relieved. One female of over two year's duration, discharged recovered.

One Case of Syphilitic Insanity, Not improved.

One Case of Alcoholic Amnesia, Not improved.

Four Cases of Puerperal Insanity, Three recovered after one course of treatment. The fourth recovered after the second course of treatment.

Two Cases of Lactational Insanity, One of over five month's duration, recovered. The other of over two year's duration, not improved.

Three Cases of Climacteric Insanity, All recovered.

Two Cases of General Paresis, One temporarily improved, the other relieved.

This is certainly a most brilliant showing and justifies a trial of the drug by every one who has to treat the insane.

Dr. Bruce's cases encouraged me so much that I was full of hope, and I came home with the determination of giving my patients the benefit of the experiment.

Four cases were selected. Cases of tardy convalescence inclined to pass into a state of dementia. Two were over one year's duration, and two were under six month's.

The patients were weighed and put to bed, their temperature and pulse rate were observed morning and evening. No restriction in diet was made. About the fourth day after being in bed a five-grain tablet of thyroid extract was given. The second day two tablets were given, and the third day three, and so on until patient received three tablets or fifteen grains of the drug three times daily. Not until this dose was reached was there a noticeable reaction. It is well here to note that the temperatures of patients had been running 97° to 98° before the drug was given, and pulse was not above seventy-five in any case, and in one was as low as fifty per minute. At this dose there was a slight feverish reaction. Temperature running from 90° to 100° at times.

¹ Read before the Harrisburg Academy of Medicine, February 28th.

² *British Med. Jour.*, January 30, 1895.

¹ See *Journal Mental Science*, January, 1895.

The most noticeable effect was observed in the pulse rate, which was quickened, sometimes irregular and generally without tone. This was considered the key to the full physiological effects of the drug, and when the pulse became atonic and irregular the drug was discontinued. In each case the drug was administered about six or seven days after the dose of fifteen grains three times daily had been reached. At this point the drug was discontinued though patients were still kept in bed, as at this stage the treatment had produced rather an exhausted state and the danger of heart failure was to be considered. As soon as it was prudent (generally the fourth or fifth day) the patients were permitted to get up, were again weighed and permitted to mingle with the other patients on the hall. No other medicine had been given during the treatment with the thyroid, save mild laxatives in one case. After the drug was discontinued, patients were all given tonic treatment in some form, with egg-nogs and other extra articles of diet, with the view of stimulating the appetite and increasing the nutrition.

CASE I.—W. M., male, age 61. Melancholy, with suicidal tendency. Takes food very reluctantly, and is very emaciated. Weight 120 pounds. Temperature 97°. Pulse 50. Treatment outlined above was carried out, the extract being administered for nine days, and ten weeks later it was noted that, with the exception that patient takes his food better, there is no noticeable change produced in his condition by the action of the thyroid. Weighs 120 pounds.

CASE II.—M. G., male, age 30. Hereditary predisposition. Melancholia of one year's duration. Is suspicious, and practices masturbation. Very thin; weighs only 115 pounds. Takes food reluctantly. Temperature 98°. Pulse 60. The thyroid extract was taken for sixteen days by this patient, and ten weeks later the following note was entered: Takes his food better. Weighs 112 pounds. The increase in appetite is the improvement to be noted in his case. Mentally there is hardly any change.

CASE III.—G. D., male, age 21. Hereditary predisposition. Case of mania. Restless, disorderly, quarrelsome, and practices masturbation. Weighs 137 pounds. Temperature 98°. Pulse 70. Patient was sent to bed and the thyroid extract given for eight days in all, but very little reaction was observed. Ten weeks later the patient is more orderly and less destructive. Is less quarrelsome, and keeps himself in better shape than he did. Weighs 136 pounds. His condition can be classed as improved.

CASE IV.—M. Z., male, age 22. Hereditary history on both sides. History claims that he had been maniacal and destructive at his home, though patient was in a stupid state and refused food when he was received into the hospital. For two days he refused food, and was fed with a nasal tube. Later he is recorded as being dull and stupid, and growing more demented. Patient is sent to bed. Pulse 70. Temperature 97°. Weight 135 pounds. Extract administered for thirteen days, and ten weeks later patient was very much brighter. More tidy in habits, and helping to do ward work. Decided improvement.

While the results of the experiment are not so favor-

able as I had wished for, still I think that all of the patients are in a way better for having received the drug. Increased appetite and power of assimilating food is certainly marked, and this, in a certain class of cases, is a gain. This, however, may be due to the after-treatment with tonics, stimulants, and extra articles of diet; but this treatment, given before the administration of thyroid, did not produce the increase which is to be found after the latter drug is given.

As the result of my observations, I give the following summary:

1. That the drug produced a decided reaction in all the cases, as is shown by the feverish state and quickened pulse.
2. That the patients lost in weight and became quite feeble during its administration.
3. That the patients developed an increased desire for food, and gained in weight as soon as the drug was discontinued.
4. That the effect upon the mental state is so slight as to hardly justify the period of time and inconvenience to patient of confinement to bed and the risk incurred by the administration of the drug.

ACETANILIDE AS AN ANTISEPTIC IN CHRONIC SUPPURATIVE OTITIS.

BY LEWIS S. SOMERS, M.D.,
OF PHILADELPHIA.

ACETANILIDE, phenylacetamide, or, as it is commonly called, antifebrine, has been used for a number of past years as an antipyretic and analgesic. In 1893 Harrell¹ called attention to its use in suppurating wounds, and reported a number of cases in which it was used with excellent results. Later, Morton² reported one thousand miscellaneous surgical cases in which it was substituted for iodoform and found superior to the last-named drug. Morton mentions one case of head injury, with aural hemorrhage, in which he packed the external canal with the pure drug. Allen³ relates one case of chronic suppurative otitis treated with acetanilide, cure resulting in a very short time. Referring to the *Surgeon-General's Catalogue* and the *Index Medicus* for references relating to the use of acetanilide in chronic suppurative otitis media, I find the drug, as used for that purpose, conspicuous by its absence, no reference being given to any article on the subject. I therefore feel justified in recording the cases and results of its use as embodied in this preliminary report.

Believing thoroughly that a suppurative ear should be treated on the general lines of antiseptics and asepsis, as taught by our modern medicine, it seems a logical conclusion that moisture (*i.e.*, permanent instillations of liquids into the canal and middle ear) should be avoided, not only that fluids macerate the delicate structure with which they come in contact for varying periods of time, but also form a nidus favorable to bacterial growths, thus setting up secondary infection in an ear already the seat of a morbid process.

¹ Harrell, *MEDICAL NEWS*, Vol. 63.

² Morton, *Trans. Phila. County Medical Society*, 1894.

³ Allen, *Codex Medicus*, Vol. 1.

Based on these principles, it is therefore a desideratum to find a suitable dry application that will protect the inner ear, render it aseptic, will not irritate, and, finally, not form hard, insoluble masses or be absorbed by the system, with deleterious results. In the small number of cases reported in this paper, acetanilide apparently fulfils the objects desired. It is neutral in reaction, odorless (this one point alone renders it far superior to iodoform), non-irritating, to a greater or less extent soluble in the purulent discharge, and does not form lumps or cake. To a moderate degree antiseptic, and acting as it does, by clinging to the mucous membrane, thereby forming a coating, preventing extraneous germs from gaining access to the ear. When used as a pure powder, without dilution, it sometimes causes slight pain and a stinging sensation, and to obviate this a powder is best made of equal parts of acetanilide and boric acid, which does not produce pain and causes no abnormal aural sensation. Another factor, although a minor one, which is not without value, especially in hospital use, is the low price of the drug, and, as very little is used on an individual case, the per capita cost is reduced to a fraction of a cent.

Acetanilide is but one part of the treatment of suppurating middle ear disease; important, but to insure success, a number of additional points in the treatment must be strictly adhered to. The routine treatment used on the cases reported in this paper was as follows: The aural canal and middle ear were thoroughly cleansed of pus and debris (as epithelial cells, extraneous matter, and cerumen) with a fifteen-volume solution of hydrogen peroxide, the pus in the canal being easily removed with a tuft of cotton on an applicator. Frequently, to remove the products of suppuration from the middle ear, a delicate syringe was used, and all parts of the ear covered with the discharge were rendered as antiseptic as possible. Necrosed bone being removed with forceps and curette, and polypi or granulation tissue thoroughly removed with the snare, nitrate of silver or chromic acid. Bleeding being controlled with alcohol, the acetanilide powder was then blown into the canal so as to cover its entire floor with a fine film, extending on the membrana tympani to the lower portion of the perforation. A very important point in the use of any powder in the ear is to use but a minimum quantity and to avoid obstructing the opening in the drum, as it is nature's method of evacuating the pus. Very frequently, if this point is neglected, the products of suppuration will be unable to escape externally and, as the Eustachian tube is often glued together by inflammatory products, the pus, endeavoring to discharge in the direction of least resistance, will invade the mastoid cells and set up a mastoiditis. As the streptococcus and staphylococcus readily find entrance through the Eustachian tube and infect the middle ear, particular attention should be paid to the nose and naso-pharynx. Every case, therefore, was thoroughly cleansed with an alkaline antiseptic solution, a modification of "Seiler's solution" being found most agreeable. All abnormal changes in both throat and nose were removed and, as far as possible in such exposed organs, antiseptics was maintained. This treatment, being based on common-sense principles, can-

not fail to produce good results, as it always has in my hands, both with and without the use of acetanilide.

The patient is instructed to avoid self-treatment of the ear, and especially not to use a syringe or insert a cotton plug, as is very frequently the case, always with deleterious results in a large majority of instances. In cases with the disease of long standing and a profuse mucopurulent discharge, instructions are given to clean the external ear with castile soap and warm water, using for that purpose a clean piece of linen, and immediately destroying it, thus never using the same piece of infected material over again. Previous to the use of acetanilide as a dusting powder, the routine method of treatment as above outlined was always used, with the exception that an impalpable boric acid powder was used in its place. But results were frequently disappointing, the suppuration continuing to exist in spite of all endeavors to effect a cessation.

The cases treated by this method are reported somewhat in detail, so that the extent of the otitis and the results obtained by the use of acetanilide may be better appreciated:

CASE I.—A. N., age 10 years. Admitted to the clinic of the Union Mission Hospital December 26, 1893. Right ear has been suppurating for several years. Tympanic membrane entirely absent. Regular treatment of no avail for one year previous. Otitis cured in three months with acetanilide. No return at present time.

CASE II.—C. S., age 14 years. Admitted April 14, 1895. Both ears suppurating. Total cessation of discharge in three months.

CASE III.—S. C., age 46 years. Admitted May 23, 1895. Left ear suppurating and tympanic membrane destroyed. Cured in five weeks.

CASE IV.—W. D., age 11 years. Admitted April 16, 1895. Both ears suppurating irregularly for the past ten years. Both membrana tympani absent. Cured in ten weeks.

CASE V.—C. S., age 24 years. Admitted May 7, 1895. Suppuration on right side. Perforation embracing lower segment of membrana tympani. Cured in three visits.

CASE VI.—I. L., age 3 years. Admitted May 13, 1895. Right ear suppurating for past three months, caused by scarlet fever. Cured in two visits.

CASE VII.—M. L., age 5 years. Admitted May 13, 1895. Sister of Case VI. Left ear suppurating for past three months, following scarlet fever. Cured in five visits.

CASE VIII.—M. McE., age 2 years. Admitted May 16, 1895. Right ear suppurating since he was nine months old. Cured in one application.

CASE IX.—W. F., age 39 years. Admitted September 10, 1895. Left ear suppurating for past two weeks. Drumhead entirely absent, except Shrapnell's membrane. Cured in three visits.

CASE X.—P. F., age 9 months. Admitted May 25, 1895. Left ear suppurating. Cured in three weeks. Previous to this he suffered from a mastoid abscess on the left side, which was operated on by Dr. Isaac Leopold.

CASE XI.—J. K., age 15 years. Admitted May 25, 1895. Left ear suppurating. Cured in four weeks.

CASE XII.—K. B., age 17 years. Admitted June 1, 1895. Both ears suppurating. Cured in six weeks.

CASE XIII.—T. T., age 31 years. Admitted June 1, 1895. Left ear suppurating for past twenty years. Cured in eight weeks.

CASE XIV.—G. L., age 16 years. Admitted August 16, 1895. Left ear suppurating for past year. Membrana tympani shows double perforation in posterior inferior quadrant. Cicatrix on right membrane from previous myringitis. Cured in three weeks.

CASE XV.—I. T., age 14 years. Admitted August 24, 1895. Both ears suppurating since early childhood. Left membrana tympani absent, except a portion of Shrapnell's membrane. Right side shows total absence of drumhead; both oval and round windows easily distinguished. Cured in one week.

CASE XVI.—A. W., age 7 years. Admitted August 3, 1895. Left ear suppurating, discharge commencing soon after birth. Small perforation of drumhead below umbo. Cured in four weeks.

CASE XVII.—H. S., age 30 years. Admitted October 20, 1895. Intermittent suppuration of left ear since early childhood. Entire posterior segment of drumhead destroyed. Cured in one application.

CASE XVIII.—J. S., age 6 years. Admitted August 1, 1895. Left ear constantly suppurating for the past three months; previous history of irregular discharge. Entire membrana tympani absent. Cured in three months, with formation of new membrane.

CASE XIX.—C. R., age 11 years. Admitted October 1, 1895. Left ear suppurating for several years. External auditory canal filled with bleeding granulations. After these were removed the tympanic membrane showed a large perforation embracing its posterior half. Cured in seven weeks, with formation of new membrane.

CASE XX.—L. W., age 8 years. Admitted October 12, 1895. Both ears have been suppurating for the past year. Left tympanic membrane shows lenticular perforation of Shrapnell's. Right shows a large inferior perforation, involving lower two-thirds of drum. Cured in one week, with formation of new membrane.

CASE XXI.—C. R., age 16 years. Admitted September 2, 1895. Left ear suppurating for one month. Tympanic membrane swollen and edematous in superior half. Medium-sized perforation of lower posterior quadrant. Cured in three weeks.

CASE XXII.—J. B., age 39 years. Admitted October 10, 1895. Right ear has been suppurating for the past three days. Septic dermatitis of external auditory canal and catarrhal inflammation of Eustachian tube. Small perforation over attachment of manubrium to membrane. From the amount of destruction present, the disease had very probably existed for several years, but owing to the ignorance of the patient, a definite history was not obtainable. Cured in one month.

CASE XXIII.—K. S., age 21 years. Admitted September 21, 1895. Pus has discharged from the left ear irregularly for the past five years. Absence of membrana

tympani. Large bunch of granulations occupying location of posterior inferior segment of drum. Cured in two months.

CASE XXIV.—F. G., age 9 years. Admitted November 30, 1895. Intermittent purulent discharge from right ear for several years. Large circular perforation of anterior inferior quadrant of membrane. Cured in three weeks.

CASE XXV.—W. F., age 10 years. Admitted December 10, 1895. Pain in right ear one week ago, followed by a purulent discharge. No previous trouble with ears. Membrana tympani boggy and congested, with a small perforation of the anterior inferior quadrant. Cured in one visit.

CASE XXVI.—M. K., age 28 years. Admitted November 13, 1895. Intermittent suppuration of both ears for the past five years. The left membrane shows a large central perforation, almost involving the entire drumhead, with congestion of Shrapnell's membrane. Right side shows a small annular perforation of anterior inferior quadrant. Cured in three weeks.

Next to acetanilide, boric acid is undoubtedly of more value than any powder now used in chronic suppurative otitis media. With the last-named drug, and without detailing cases from clinical reports and my own experience, it has usually taken on an average of thirty applications to the ear to cure the diseased process. The word cure is used advisedly, as in a certain number of cases suppuration will occur at irregular intervals, usually from tubal infection, due to coryza and pharyngitis, and in the class of patients seen in hospitals from unhygienic surroundings and lack of care of the ears, especially in children among the poor.

In the series of cases reported above, an average of twelve treatments was sufficient to remove all evidence of discharge, thus making a very material decrease in the treatment rate. Applications were made three times a week, so the average course of treatment extended over one month, instead of from three to five, as is usually the case when treated with other applications. The longest treatment extended over a period of three months, while in several cases one application was sufficient to produce a satisfactory result. From the history of the duration of the disease, it was found that the longest period of existence was twenty years, while the shortest was but three days' duration, giving an average duration of very nearly three years. The average age of the case at beginning of treatment was 16½ years, the youngest being 9 months and the eldest 46 years.

MEDICAL PROGRESS.

Intra-uterine Transmission of Vaccinal Immunity.—At a recent meeting of the Académie de Médecine AUSSET (*Bull. de l'Acad. de Méd.*, 1896, No. 3, p. 51) communicated a report of the case of a man, 27 years old, who had been vaccinated several times without success—once during infancy and twice at the age of 20 years. The fourth attempt, at the age of 27, was followed by the development of characteristic lesions. It appeared upon in-

quity that the individual's mother had suffered from an attack of variola during the pregnancy (the exact period could not be ascertained) but the patient presented no lesion of the disease. It seemed, therefore, probable that his resistance to vaccination was due to the protective influence of substances that passed from the mother to the fetus through the placenta.

Prolapse of the Uterus and Vagina in a Nullipara.—CHOLMOGROFF (*Wratch*, 1895, No. 49, p. 1370) has reported the case of a woman, thirty years old, who had never been pregnant, but who presented complete prolapse of the uterus of three years' duration. Menstruation appeared first at the age of sixteen, and had always been regular, but painful. The uterus was entirely external to the vulva, was increased in size, and was easily replaced. The external orifice was open and surrounded by a suppurating erosion. Cystocele and rectocele existed. Urination was easy and painless. On auscultation, râles were heard at the apices of the chest; expectoration was abundant, and consisted of mucus sometimes sanguinolent. Sweats occurred at night, and cough was obstinate, especially in the morning. After reduction of the uterus a glycerin tampon was introduced, and renewed hourly for six hours. After a time a long and broad strip of the vaginal wall was removed, and the cut edges approximated by sutures. A month later hysterectomy was practiced, and the result was entirely satisfactory. The woman, however, returned to her work, which consisted in lifting heavy weights, the pulmonary symptoms became more aggravated, and in the course of six months the prolapse had returned.—*Presse Médicale*, 1896, No. 13, p. 78.

Bilateral Ovarian Cystomata in Three Sisters.—As a contribution to the subject of the hereditary transmission of ovarian cystomata, LOHLEIN (*Monatschrift für Geburtshilfe und Gynäkologie*, 1896, B. III, H. 2, p. 91) reports the cases of three sisters, all of whom presented cysts of both ovaries, which were removed by operation. Olshausen, who has probably enjoyed the largest experience of similar nature, has reported the cases of three sets each of two sisters, in which he has operated for the removal of ovarian cysts upon one side.

Osteoplastic Restoration of the Metatarsus.—CRAMER (*Centralblatt für Chirurgie*, 1896, No. 5, p. 99) describes a mode of operative procedure adopted by Prof. Bardenheuer in the restoration of a defect caused by the removal of the third metatarsal bone on account of disease. After removal of the diseased structure the adjacent second metatarsal bone is divided longitudinally by means of a chisel, but not through its tarsal extremity, whose relation with the middle cuneiform bone is preserved. The inner half of the divided bone is then deflected into the place of the removed third metatarsal bone, and to its distal extremity the first phalanx of the third toe is attached. The operation has been successfully performed in a case of tuberculous caries in a boy six years old. The joint between the tarsus and the metatarsus was not opened. The interval between the second and the fourth metatarsal

and between the two parts of the second were packed with gauze. At the end of four weeks the child was dismissed and given permission to stand on the foot and to walk after two weeks more. Five months after the operation the boy was able to move the affected foot freely, and the member was well-formed and like its fellow. The operation is similar to that which has already been employed in the correction of congenital defect of one of the bones of the forearm or leg, and is applicable to other conditions of an analogous character.

Successful Treatment of Dracunculus Medinensis by Injection of Mercuric Chloride.—MANSON and BOYD (*British Journal of Dermatology*, 1896, No. 2, p. 38) have reported the case of a Lascar, forty-two years old, who presented a projection from a small sinus just above the left external malleolus, which was found to consist of some two inches of guinea-worm, and which was wound upon a stick. The protruding piece of worm was cut off, and the fluid contained in the proximal extremity examined, without, however, finding living embryos. This extremity became retracted within the sinus and could not be drawn out. The trickling of cold water over the leg from a sponge failed to cause exudation of embryo-laden fluid, and it was therefore concluded that the worm was empty. After three days of simple dressing without result, an Esmarch bandage was applied as a tourniquet above the malleoli, and an incision an inch long made over an elongated low swelling, about $1\frac{1}{2}$ inches in extent, situated two inches above the mouth of the sinus. At once an opaque white cord about one-sixteenth inch in diameter, was seen at the upper end of the wound. This was pulled out with a hook, and presently the dried end of the worm appeared. By careful traction, about four inches of the length of the parasite was thus withdrawn. This portion was a thin-walled, but strong, empty tube. Into the buried portion of the worm was injected 1-1000 solution of mercuric chloride, but this penetrated only a short distance. Some of the solution was also injected into the tissues about the mouth of the sinus. The worm was cut off as high as possible, and the wound closed. In eight days the wound had healed entirely, without general or local reaction.

Hemiparesis and Gangrene of the Forearm in the Sequence of Extirpation of the Uterus.—At a recent meeting of the Royal Society of Physicians of Vienna BRAUN (*Wiener klinische Wochenschrift*, 1896, No. 5, p. 74) related the case of a woman, sixty years old, in which immediately after vaginal extirpation of a carcinomatous uterus, there were noticed paresis and a livid discoloration of the right hand and forearm, and of the right lower extremity. The operation had been performed with the patient in the usual position, and examination of the heart had disclosed no lesion. In the course of a few days the arm became livid, and pulsation could not be felt in the corresponding axillary and brachial arteries. The bodily temperature fell below normal. The vascular conditions in the lower extremity gradually improved, while those in the upper grew progressively worse. Amputation of this member was deferred until some indication of the limits of the gangrene should manifest itself. Paresis also ap-

peared on left side of the face, and the palsy of the lower extremity became complete. On several occasions a fatal issue threatened, but each time the patient rallied. Power gradually returned in the palsied members and a line of demarcation formed in the right forearm, so that at the end of three months amputation was performed without anesthesia and without pain.

In the discussion Weichselbaum, to whom the amputated member was referred, stated that the probable explanation of the course of events depended upon the detachment of calcareous fragments from the walls of the atheromatous vessels and their lodgment in the left sylvian artery and in the arteries of the right arm.

Cerebral Traumatism and Dipsomania.—At a recent meeting of the Medico-Legal Society of Paris VALLON (*Presse Médicale*, 1896, No. 13) reported the case of an officer in good health and of good habits and good family history, who was thrown from his horse, one foot being caught in its stirrup, and dragged for a considerable distance, his head striking the ground. The man suffered an extensive wound of the nucha and was unconscious for three days. At the end of three months he returned to his regiment in apparently good health, complaining only of ringing in the ears. Subsequently he had an attack of uncertain nature in which he fell and lost consciousness. It was now noticed that the man displayed an entire change of habits, indulging in alcohol to intoxication and suffering from a veritable mania of thirst; he was besides erotic and manifested a tendency to suicide. This condition continued, the man going from bad to worse.

A New Method of Treating Wounds Antiseptically.—SCHLEICH (*Therapeutische Monatshefte*, 1896, No. 2, p. 57) has found that when a watery solution of gelatin is evaporated over formalin-vapor a new product results, which is hard, transparent, and resistant to ordinary influences, such as heat, moisture, alkalies, and acids, and which is chemically inactive. Experiment showed that when this formalin-gelatin was introduced into the peritoneal cavity of animals it was in part digested and surrounded by new-formed connective tissue. The introduction into wounds of pathogenic bacteria, together with powdered formalin-gelatin was unattended with infection, thus proving that the formalin set free exerted an antiseptic influence *in loco*. The observations were extended to human beings, with the invariable avoidance of suppuration, except in the presence of necrotic tissue (as from ulceration) and of specific infections (such as tuberculosis or syphilis). When from the presence of necrotic tissue, deposits or secretion, healthy cells were prevented from coming into contact with the formalin-gelatin and setting free formalin, this was effected by means of a solution of pepsin (5 parts) in hydrochloric acid (0.3 part) and distilled water (100 parts). Formalin-gelatin is prepared by the addition to 500 grams of purified gelatin in solution 25 drops of pure formalin solution and evaporating over formalin-vapor. The resulting solid body is reduced to powder and preserved in the presence of a drop of formalin solution. Impregnated with lime-salts, formalin-gelatin is capable of taking the place of defects in bone.

THERAPEUTIC NOTES.

The Treatment of Tetany with Thyroid Extract.—LEVY-DORN (*Therapeutische Monatshefte*, 1896, No. 2, p. 63) reports a case of idiopathic tetany of three years' duration in a woman 21 years old, which, after resisting varied treatment, yielded upon the administration, over a period of nearly four weeks, of four grains of thyroid extract at intervals of one, two, or three days.

Stypticin is a yellowish, bitter powder, readily soluble in water, the results of whose employment in gynecological practice GAERTIG details in the *Therapeutische Monatshefte*, 1896, No. 2, p. 71. The drug chemically resembles hydrastinin, and is the chloride of cotarnin—a base obtained by the oxidation of narcotin. It was at first used in powder-form in cachets, later in a solution of which 10 drops represented gr. $\frac{3}{4}$, and finally in the form of perles. At first gr. $\frac{3}{4}$ were given twice daily, subsequently the same dose four times daily, and finally increased to eight times in the twenty-four hours. No influence upon uterine contractions was observed, so that any hemostatic action possessed by the drug is attributable to some other cause. The medicament was employed in cases of uterine hemorrhage of varied origin and proved serviceable in the larger number, equalling in efficiency hydrastinin, than which it is cheaper.

The Treatment of Scarlatina with Anti-Streptococcus Serum.—MARMOREK (*Annales de l'Institut Pasteur*, 1896, No. 1, p. 1) details the results achieved in the treatment with anti-streptococcus serum, of ninety-six cases of scarlatina at the Hôpital Trousseau from October 16 to December 31, 1895. Seven additional cases coming under observation during this time were not treated with the serum because of the lateness of the disease. One of these presented a nephritis of three weeks' standing and remained under observation for two months without progressing to recovery. Two sisters of this child, who were attacked later, were treated with serum and recovered without complication. In all of the ninety-six cases streptococci were found, alone or in association with other micro-organisms. In seventeen cases diphtheria-bacilli were present. Four of these presented symptoms of diphtheric intoxication and died, notwithstanding treatment with both the anti-streptococcus and the anti-diphtheric serum. These children had been several days without treatment. One other child died as a result of bilateral pneumonia. All of the children received at first a dose of 10 c. cm. of the serum. The dose was doubled if the general condition appeared grave. In addition only antiseptic lavage of the throat was employed. The injections were repeated daily until the temperature became normal. Ordinarily two injections proved sufficient. When complications, such as adenitis, otitis or albuminuria appeared, the injections were resumed, and continued until the normal condition was restored. No bad effects were observed from the use of the serum. It influenced only the complications due to streptococci.

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THE PLAYFAIR INCIDENT, AND THE SACREDNESS OF PROFESSIONAL CONFIDENCES.

NOTHING has happened in recent years to direct attention so sharply to the responsibility of the physician, in his confidential relation to his patients, as the verdict of \$60,000, in an English court, against Dr. Playfair, the celebrated obstetrician, of London. The circumstances, as reported in the daily press, are that Dr. Playfair was called in consultation by the family physician of a lady who was ill. This lady's husband had been in Australia for about one year. Whatever the condition was, Dr. Playfair was led to believe that the lady had not been a faithful wife. She, being his own wife's sister-in-law, he accused her of infidelity, and reported the matter to his wife, warning her that the patient was not a proper person for her to associate with.

This led to the lady being cut off from her annual allowance from her father-in-law of \$2500 and to her practical ostracism from society. Then she sent for her husband, who staunchly believed in her honor and brought the suit which resulted in the vindication of her character and the re-

covery of damages for defamation of character to the amount of \$60,000.

If the reports, as given in the daily press, are true, Dr. Playfair must look in vain for sympathy from his professional brethren. If the doctor's only intent was to protect his wife and family, he could have done it in some way without betraying his patient's confidence.

The physician stands in honor in exactly the same relation to his patients as the priest to those who confess to him. The priest receives and encourages this confidence on the mutual belief that it is for the confessor's spiritual good. The physician does the same on the mutual belief that it is for the confessor's physical good. One is as sacred as the other. The doctor learns his patient's ailment simply that he may treat it; but the remote influences of the moral and spiritual life of his patient has so great influence on the physical that it becomes sometimes necessary to make his confessional as far-reaching as that of the priest, and it, therefore, behooves the doctor to guard with zealous care not only the knowledge he may thus gain, but the very suspicion that he has it. On this point the Code of Ethics of the American Medical Association speaks with no uncertain sound. Section 2 of Article I says:

The familiar and confidential intercourse, to which physicians are admitted in their professional visits, should be used with discretion and with most scrupulous regard to fidelity and honor. The obligation of secrecy extends beyond the period of professional services; none of the privacies of personal and domestic life, no infirmity of disposition or flaw of character observed during professional attendance should ever be divulged by the physician. The force and necessity of this obligation are indeed so great that professional men have, under certain circumstances, been protected in their observance of secrecy by courts of justice.

In the account of the trial it is reported that Sir John Williams, physician to the royal family, declared that it was within the discretion of any of the 23,000 physicians in England, on his own responsibility, to disclose a secret without consulting the patient, if he deemed it his duty for the protection of his wife or family or in the case of a crime. This moved the Judge to inquire if he considered it the duty of a physician to inform the public prosecutor in case he found that a patient had submitted to an illegal operation.

Sir John replied that the College of Physicians had answered "Yes" to precisely that question. But Justice Hawkins tartly observed that if every medical man in the kingdom testified that he had a right to betray a confidence under certain circumstances it would not alter the law or his responsibility under the law.

A doctor is not a moral censor; nor can he consider it his duty to punish, by exposure and defamation, sins which he may have discovered in his professional confidences.

What view the law takes of this subject, in various parts of our country, is as difficult to ascertain as to know what regulations the different States have for the practice of midwifery and which are devoid of any. Doubtless the law here regarding the communication between physician and patient is about the same as it is in England. In New York State the Code of Civil Procedure declares:

A person duly authorized to practice physic or surgery shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity and which was necessary to enable him to act in that capacity.

In view of the outcome of Dr. Flayfair's experience, it may be well to remember that if a doctor reveals a professionally gained secret he does so at his peril.

THE MORAL ASPECT OF THE TENEMENT-HOUSE QUESTION.

A good deal has appeared lately in lay and medical periodicals upon the subject of the tenement house and the "rear" tenement house in particular. It is known by most readers that, in the thickly crowded districts of all large cities, in what should be the back yard of the house that fronts the street, another house is erected, connected with the street only by a narrow, covered passageway leading through the front house. This is the "rear tenement" about which we hear so much and which is credited with being the hiding and breeding place of so much disease, vice, and crime. No thinking person can for one moment deny that the *proper housing* of an urban population is for them the most important problem. If overcrowding simply meant disease and death to a large percentage of those overcrowded, the reformer might simply deplore the loss of life

in a philosophical way. But disease and death are trifles compared with other dangers from which thoughtful persons recoil with horror. We refer here to the moral side of the question.

The home is the bulwark of our civilization, but the word "home" is not in the vocabulary of the tenement house, and, as eight-fifteenths of our city population so live, they know not the meaning of the word. Defined by a rat, home means one thing; by a civilized human being it means something more—an abode furnishing the comforts of domestic life. These comforts are sunlight, an abundance of uncontaminated air, a sanitary water-closet, a bath-tub, and enough rooms to secure privacy. An abode not having these modest amenities of civilization is not a home, be it a squalid rear tenement or a "flat." In the poor tenement sunlight is almost unknown; the air is only a fraction of the legal 600 cubic feet per tenant, and is contaminated by foul odors and deadly emanations.

The New York Tenement-house Committee reported in 1894 that in one block of 2,000 tenants there was not a single bath-tub, and the secretary of that committee reports that of a population of 255,033 inspected, only 306 persons had access to bath-rooms in the houses in which they lived.

But, as here contended, lack of sunshine, air and cleanliness, and consequent disease and death, count as naught. The moral is the greatest danger, and the lack of privacy is the most damnable feature of the tenement. In the better class of tenements there is a front or sitting-room, having perhaps two narrow windows looking on the street, a back room, generally used as a kitchen, with a window or two, and between the two rooms are two more, unlighted and unventilated except through the front and back rooms, serving both as bedrooms and as a passage-way from kitchen to sitting-room. In these rooms a father and mother and several children, perhaps grown, cook, eat, dress and undress, bathe, sleep, live in health and sickness, and die. Under the most favorable circumstances such a life is not conducive to modesty, and if purity and morality survive it is a marvel. Shift the scenery a little and in the same rooms imagine a drunken father or mother, or both, children of an impressionable age, and perhaps a boarder or two to take a hand

in the frequent brawls or debauchery, and the vision of the tenement house as a nursery for future citizens begins to take shape. But instead of four rooms, suppose there is one, partly below ground, dark, damp and noisome, and suppose this the only abode of a family or of several adults of both sexes, with children, and you have a true picture of how many city dwellers live. An abode where marital acts or promiscuous relations of the sexes are open, where drunkenness, lewdness, and crime go hand in hand, presents a problem that should be met and solved.

It is futile to appeal to the humanity of the landlord, for he is the exception who voluntarily tears down a rickety house yielding twenty-five per cent. and puts up a sanitary tenement yielding ten per cent. It is useless to look for reform to the tenants themselves, stolid and morally benumbed as they are. As long as unfit habitations exist they will find tenants, and there is only one way to solve the problem and that is to invest the Board of Health with powers of expropriation.

When a tenement cannot be made a sanitary habitation or where a landlord refuses or neglects to make it so, the city should step in, pay the owner what the building is worth for old material, tear it down and leave, at least, a breathing space where before was a hotbed of physical and moral infection. If there ever was an excuse for the State to exercise its power of eminent domain, it is where its poor stand in need of light and air, which should be free to all; where vice and crime flourish because virtue and honesty are impossible; where the very existence of the State is threatened because a large part of its younger citizens, if they escape disease, fall victims to a social rot.

OPHTHALMOLOGY.

A CRITICAL RESUME OF RECENT PROGRESS.

HERBERT BURNHAM, M.D. (*Arch. of Ophthalm.*, Vol. XXIV, No. 3, p. 407), reports the use of pilocarpin in connection with the iodide of potash and mercury, in the treatment of an obstinate case of syphilitic iritis, in which the prolonged use of atropin, mercury, and the iodide of potash

had been of little avail. The sulphate of pilocarpin was used hypodermically in the dose of $\frac{1}{8}$ grain once a day, and gradually increased to $\frac{1}{4}$ of a grain. The injections were given daily for three weeks, when not contra-indicated by excessive nausea or by weak heart action.

An interval of two or three weeks was then allowed to pass, and the treatment repeated. The mercury and potassium were continued without intermission. Under the treatment the inflammatory condition gradually subsided, the synechia disappeared almost entirely, and the otherwise intractable diseased condition passed on to recovery.

Dr. Burnham intimates that as the addition of pilocarpin to the mercury and potassium, in the treatment of this case of syphilitic manifestation, proved so valuable, it may also be of similar value in the treatment of obstinate syphilitic affections of other parts of the body. The establishment of the free action of the mucous membranes, the glands of the skin and of the salivary glands must certainly aid in the elimination of the toxic principle of syphilis, as well as of other diseases, from the system.

The question of the presence of glands in the ciliary body, as advocated by E. Trecher Collins, (Vol. XI, *Trans. Ophth. Society of the United Kingdom*) has been again taken up by Alt (*Amer. Jour. of Ophth.*, Vol. XIII, No. 1). These small diverticula in the pigment layer of the ciliary body, which are most marked in the vicinity of the union of the pars ciliaris nonplicata with the pars ciliaris plicata, can be seen in any antero-posterior section of this part of the human eye, but are rendered more easily visible by bleaching sections after Collins' method. Alt formerly regarded these follicular depressions as being due to folds produced by the play of the ciliary muscle, but since he has found them partly developed in the eye of the fetus, he is inclined to believe that they are not due to this cause. The pigment layer of the greater portion of the ciliary body, like that of the iris, represents two layers of the posterior portion of the secondary eye vesicle, which has become folded upon itself during the process of the development of the eye, and the character of the cells in the depressions mentioned do not differ from those found in the pig-

mented layer spread out over the ciliary processes and other portions of the surface of the ciliary body. The vascularity in the part mentioned is not as great as we would expect to find in active gland structure and cannot compare with the vascularity of the ciliary processes or of the iris. Since the function of secretion is undoubtedly possessed by the pigment cells of the pigment layer of the retina, it is not unreasonable to attribute such function to the pigment cells of iris and ciliary body, and if this is the case we must adopt the view of Nicati, that the ciliary body and iris form one large gland from which is derived the secretions to the interior of the eye.

In the operative treatment of detachment of the retina, American and English surgeons have occupied conservative ground, but few of the various methods that have been advanced having originated with them. German and French ophthalmologists have introduced new methods of treatment from time to time, and have claimed for them results that were very gratifying. Incision of the sclerotic and choroid, beneath the detached retina, for the purpose of permitting the sub-retinal fluid to escape, is one of the earliest surgical procedures. Many operators combine single or multiple incisions of the retina with the above-mentioned procedure, permitting the sub-retinal fluid to pass into the vitreous chamber, with the hope that by restoring the volume of the contents of the vitreous chamber, replacement of the retina would follow, and permanent adhesion between retina and choroid would result from the exudation and irritation provoked by the incisions. Bull (*Trans. Am. Oph. Soc.*, 1894, p. 382), recognizing the fact that the contraction of cicatricial bands that have formed in the vitreous is a factor in the production of detachment of the retina in certain cases, resorts to division of these bands by incision through sclera, choroid, and retina, permitting the sub-retinal fluid to escape into the vitreous chamber. He reports favorable results in the cases operated on. Bull warns against the attempt to divide vitreous bands that are vascular. In the belief that shrinking of the vitreous humor, accompanied by traction from filamentous bands uniting retina and vitreous, are responsible for detachment of the retina in many

of the spontaneous cases, Deutschmann (*Beiträge z. Augenheilk.*, Vol. XX, p. 1) employs a modified form of Bull's procedure. In the more recent cases the point of a thin, double-edged knife is passed through the sclera, choroid, and retina, at or near the periphery of the detachment, and is carried to a point very near to the opposite wall of the globe. It is then swept through the vitreous just over the detachment and the filamentous bands divided. The retina is incised in two or more places; a portion of the sub-retinal fluid passes into the vitreous chamber and a portion passes outward through the scleral wound. In some cases Deutschmann has resorted to the injection of the vitreous humor of a rabbit into the vitreous chamber of the human eye by means of a Parvez syringe. In old cases of detachment, in order to establish marked adhesive inflammatory reaction between retina and choroid, the fine point of a Paquelin cautery is employed to pierce the sclera and choroid, passing into the sub-retinal space, either before or after the incisions above referred to are made. A number of cases are reported which have been under observation from a few months to a number of years. The reaction from the operation is said to be slight, and the results very favorable. Application of the galvano-cautery point by puncture, has been made. The injection of irritating solutions between retina and choroid, after permitting the sub-retinal fluid to escape, notably the injection of one or two drops of Lugol's solution, as advocated by Schoeler, of Berlin, has been extensively tried. Recently, Terson (*Anal. d'Oculistique*, July, 1895, p. 23) has made something of a study of the causes of detachment of the retina. He is of the belief that many of the cases of detachment are due to sub-retinal exudation from the choroid and that progressive myopia, primary changes in the vitreous—either liquefaction or the formation of connective tissue bands—do not possess the importance as causes, that have heretofore been assigned to them.

Terson believes that in electrolysis we possess a means of treatment for detachment of the retina that is valuable. The positive pole only is introduced into the eye; for the reason of its greater coagulating effect as compared with the negative pole, and because the wound made by

the needle of the positive closes more quickly than that made by the needle of the negative pole. Bipolar electrolysis, as employed by Schoeler and others, is not thought to possess the advantages that belong to the positive pole when used alone. A strong platiniridium needle with a gutta-percha handle is employed. The point of the needle is passed through the sclera and choroid into the sub-retinal space, and a current of five milliamperes is permitted to pass for one minute. Of the twelve cases reported, the detachment had been present from two to eight weeks in eight; in two, the time was not given; in one, three years; in one, eight days. Of the first eight cases temporary improvement occurred in three; more lasting improvement in five cases. In the case of three years' duration irido-choroiditis followed the operative procedure. In one other case there was no improvement, and in one, temporary improvement only. In the detachment of eight days' standing, a permanent recovery is reported. The eye in this case was extremely myopic. Ultimate vision of $\frac{1}{12}$ was obtained. The results as quoted above are encouraging, but we must await the report of the experience of other operators before judging the value of the procedure.

JOHN E. WEEKS, M.D.

ECHOES AND NEWS.

THERE is reported from South Bound Brook, N. J., a sad case of the poisoning of four young children, who had mistaken wild parsnip for horseradish. One child died before medical aid could be procured, and the other three were made dangerously ill.

THE annual report of the registrar-general of Great Britain for 1895 shows that the death rate was lower last year in that country than in any other year since its mortality statistics have been recorded. This is an important statement. It shows that the average health of one of the most crowded countries in the world is steadily growing better. The lowered death rate indicates that where the race against death is the sharpest the average bodily condition of men and women is most comfortable. In Great Britain the vast majority of the people live in the cities and large towns, and the decrease in the death rate points out that sickness and loss of life in these places are largely under control. It would appear from this statement that where civilization is best it has most influence over the conditions of life.

A NON-POISONOUS match has been invented by a distinguished chemist, M. Pouteaux. Permanganate of potash and acetate of amyl are among the inoffensive ingredients. At the Pasteur lucifer match manufactory the combination has been tested with satisfactory results. The matches are easily made, without the slightest danger to the factory hands. They ignite readily, there is no danger of explosion when stored, and the disagreeable odor common to lucifer matches is in these replaced by that of aniseed.

THE New Zealand government has sent to London the draft of a bill which provides for the strict exclusion of consumptives from the islands, just as individuals having smallpox, leprosy, or other contagious disease are now prohibited from landing by the existing laws. To better enforce this proposed act, it is provided that a heavy penalty be imposed upon the captain of any ship who may land a person suffering with phthisis.

A LARGE addition to the Baltimore Medical College and the Maryland General Hospital is to be erected in the near future.

THE executive council of Massachusetts has unanimously confirmed the nomination of Dr. Henry P. Walcott, chairman of the State Board of Health, as metropolitan water commissioner.

ON March 21st Dr. M. M. Royer died suddenly at his home, 906 Warren avenue, Chicago, of some form of cardiac disease, which was wholly unsuspected by his friends and family. However, the previous week he had acquired a strong premonition of his approaching end, of which he had warned his family, and then prepared a brief biography, to which was appended detailed directions of the programme to be followed at his obsequies.

GOVERNOR MORTON has appointed Dr. Theodore K. Tuthill, of No. 319 West Eighteenth street, as coroner for New York city, in the place of Coroner O'Meagher, deceased.

DR. FRANK WINDERS has been elected by the State Board of Medical Examiners of Ohio as their permanent secretary. He is a graduate of Bellevue Hospital Medical College of New York, in the class of 1895.

A MORE than ordinary degree of forethought was displayed by a lady, formerly of Staten Island, but now deceased, whose will is at present the subject of legal proceedings. In order to avoid the most common legal grounds for setting aside testamentary documents she subjected her mental condition to the investigation of five expert alienists, who became witnesses to her will, and certified to her soundness of mind.

THE cause of caisson disease, or rather of the train of symptoms that has long been known to result from exposure of workmen to continued high atmospheric pressure in the construction of submarine masonry, is now

the subject of experimental investigation in France. M. Hersent, a civil engineer, expresses the firm conviction that the large sacrifice of life in the past has been due to the rapid variations in the degree of compression, brought about by ignorance or carelessness. He found that dogs could endure, without danger, a pressure of seventy-five to eighty pounds to the square inch for as much as five hours, provided that twenty-five minutes were occupied in gradually producing this amount of compression, and one and a half hours in "decompression," a uniform temperature being maintained. Practically the same experiments, with perhaps a more gradual change in the pressure, were carefully made upon workmen, with only a little lassitude, lumbago, and slight prickling sensations of the surface resulting. It was thus demonstrated that without overtaxing the workmen they can labor uninterruptedly for four hours or more under a pressure of seventy-five pounds or more; that is to say, at 150 to 175 feet below sea level, on condition that they should experience a very slow compression and "decompression," and that the temperature be uniformly maintained.

THE New York coroner's bill is reported to be in danger of defeat, due to adverse pressure brought to bear by the present incumbents and others interested in political patronage. It has been referred by the judiciary committee to a sub-committee of three, who seem disposed to consider the influence of the present coroners, and are led to fear, furthermore, that the medical profession, as a class, are to reap improper benefits from the adoption of this bill. If the sub-committee can devise some method for allotting these appointments by others than the judges of the supreme court, it is thought that a favorable report on the measure is probable.

THE CORNELL BRAIN ASSOCIATION, to which we recently alluded, has its prototype in the Mutual Autopsy Society of Paris, which has been in existence since 1876 and numbers 100 members.

THE HON. MR. GALLINGER, in the United States Senate last week presented numerous petitions and papers from clergymen, physicians, and educators, in favor of setting apart a Government reservation for the benefit of persons suffering from pulmonary diseases, who might be benefited by a change of climate to the salubrious atmosphere of the Rocky Mountain region; and subsequently he also introduced a bill setting apart the Fort Stanton military reservation in New Mexico for a like purpose. He spoke in favor of the proposition, which is under the lead of the American Invalid Aid Society of Boston.

THE Brooklyn Board of Aldermen recently received a communication from the Commissioners of Charities calling attention to the overcrowded condition of the County Hospital and the serious danger to the six hundred patients in case of fire. Permission was also asked for the immediate erection of a drug and supply building, nurses' quarters, a home for the convalescents, and administration offices. It was also suggested that an electric light plant

be provided for the hospital. The communication was referred to a committee.

THE *British Medical Journal* states that the falling off in the production of cod-liver oil this season will certainly advance the wholesale prices of this standard remedy. Reports from the Norway fisheries show rapid diminution in the annual supply that must shortly result in a total suspension of the product. Some quotations already indicate an advance of nearly 100 per cent. over last season.

GOVERNOR BRADLEY, of Kentucky, has appointed Dr. B. F. Porter, colored, third assistant physician to the Lakeland Insane Asylum. As he will have several wards containing white patients under his medical supervision, the Governor has been receiving rather unpleasant criticisms throughout his State.

DR. E. W. MARTIN, Chief Inspector of Foods for the New York Board of Health, found tuberculous beef exposed for sale in the markets last week. The animals were procured at the New Jersey stock yards.

A "divine healer" named Schrader, is now visiting Cincinnati. The manner of his advent, together with his readiness to be extensively interviewed for the public press, evinces the instincts of the ordinary patent medicine man. Flowing robes, a crown of thorns, and the general cut of hair and beard, suggest an affected resemblance to approved likenesses of the Savior.

SOCIETY PROCEEDINGS.

KINGS COUNTY MEDICAL ASSOCIATION.

Regular Meeting, February 11, 1896.

THE CLINICAL ASPECT OF CHRONIC DIFFUSE NEPHRITIS. (SEE PAGE 367.)

DISCUSSION.

DR. T. M. LLOYD: In relation to etiology, observers of large experience have been convinced of the importance of constant nerve strain, excitement, or worry, as prominent factors in the production of chronic kidney changes, often it may be preceded by a chronic endoarteritis. These factors are often associated with persistent use of alcohol, tobacco, or other excesses, but frequently without these excesses, in subjects of good habits, excepting perhaps, a relative excess of food as compared with exercise and outdoor-air, operating for years.

The importance of painstaking care and intelligent use of the methods of diagnosis of kidney diseases cannot be too strongly insisted upon. Every one who has had a large experience in urinary examinations knows how imperfectly many examinations of the urine are made, often by otherwise skilful men. It is specially important that cases with mere traces of albumin be early recognized if we are to help our patients. This condition must be differentiated positively from the temporary or less serious conditions. One of the most important of these is the presence of nucleo-albumin, formerly included under the

designation of mucin, which is not differentiated in so many of the delicate tests for albumin. The presence of albumin in minute quantity necessitates a most skilful and often laborious search for the microscopical elements indicative of the various renal changes.

With the strictest attention in the use of the most delicate tests for albumin, certain forms of chronic kidney lesion may escape detection for long periods if an exhaustive examination in other particulars be not made, viz: the quantity per twenty-four hours with the specific gravity of the whole, estimation for urea, and careful microscopical search.

I wish to call attention to a very ready, practical test I have made much use of, which is the nitric-magnesian fluid of Roberts.

The test is prepared by mixing one part of the pure nitric acid with five parts of a saturated solution of the sulphate of magnesia, and filtering. The principal advantages claimed for it by Dr. Roberts are that it does not stain or soil the fingers, that it does not show a coloration of iodine, and, most important of all, that it is a more delicate test than pure nitric acid. It is used the same way as the latter, a drachm being poured into the bottom of the test tube, holding this nearly horizontal so that the two liquids do not commingle.

This test possesses this very great advantage: that it condenses more thoroughly the albumin than does the nitric acid. It often happens that the zone produced by the nitric acid will be light and fluffy, mucin, or the substance I have so often referred to, being directly in contact with it in considerable quantity, while that produced by the nitric-magnesian test would be condensed, compact, lardaceous, and clearly and sharply defined, the obnoxious mucin being more distinctly separated from it and above it. Such a compact layer can be taken with more confidence as a basis for the estimate of the quantity of albumin. In regard once more to the delicacy of this test I have found it to show the presence of albumin often diluting it to a point where nitric acid ceased to show it. From my experiments I believe it to be easily a third more sensitive than nitric acid.

This test does not absolutely distinguish albumin from mucin, or nucleo-albumin, when small traces of the former are present, in all cases; but the ferro-cyanide test, as recommended by Purdy and E. E. Smith, will help to differentiate. This test of Roberts being more delicate and definite than nitric acid, and free from some of the errors of the latter, notably the nitrate of urea zone. I have been in the habit of using it for some years as a companion test.

Notwithstanding the importance of the manifestation of albumina minima we should be careful in giving too serious a prognosis in certain cases till a sufficient time and repeated observations of the urine and the patient indicate the grounds therefore. Many of us remember to have given a very grave prognosis, and to have found, months or years after, the patient living in comparative comfort and apparent health. These occurrences are not infrequent with elderly people. The presence also of albumina minima, hyaline casts, etc., I have observed in young

children when perhaps the only other abnormal condition evident was a slight degree of anemia, and which disappeared under appropriate tonic treatment, change of air, etc.

DR. A. R. PAINE: I have grown to be more and more impressed by the importance of chronic nephritis. In our profession we see more and more of the universal way in which it manifests itself, and I have learned to regard the kidneys with more and more suspicion as people pass middle life; there are so many different manifestations, and we find so many different neuroses for which we cannot account, which, after examination of the urine, we find explained. In obscure diseases of the circulatory system where we have no suspicion of the kidneys, before examining the urine, we often find in these organs the pathological explanation of them. Hence I have made it an invariable rule to analyze the urine with especial care in patients who have passed middle life. I consider that it is very important, as stated by the author, that there be regular systematic observation. The remarks concerning sciatica recall to me a case in which, when I first knew the patient, there was no sign of disease except the sciatica, and one might have thought that she was in perfect health; but at last I found that the kidneys were to blame, and now nephritis is approaching to the last stage. All of us know so many cases of this kind in people who are past middle life that I have, as I say, become suspicious. And, though I agree with Dr. Lloyd, when he says that we must not too completely doom the patient who has albuminuria, because I have seen many cases, even in elderly people, where one might think that the end must be near, who, by taking care of themselves, have improved and lived for years very comfortably, still I have noticed that generally they eventually die from this trouble.

DR. L. A. W. ALLEMAN: The subject which the President has presented in his address is one of the greatest general interest, and to me it is particularly so, because of the importance of the complete clinical picture, when considering ocular changes, which we suspect to be of renal origin. The more I see of these cases, the more I am impressed with the difficulty of making a positive diagnosis of nephritic retinitis. Typical cases are not common in practice, and the atypical ones so nearly resemble the changes which are found in other retinal lesions that we must often be guided more by the history and the evidences of similar changes in other organs due to the same causes than by the ophthalmoscopic examinations; and it is to the less pronounced symptoms, those upon which the President has placed special emphasis, that we must trust, for the cases which show ocular lesions are not, as a rule, those suffering with the grave cardiac and respiratory manifestations. The cases we see are often discovered in an examination for glasses in patients ignorant of any serious organic disorders, and in whom urinary examinations often fail to discover albumin without a most careful and persistent search. It is estimated that about 6 per cent. of all Bright's cases show retinal changes. I believe this is entirely too low a percentage. The cases where the more distressing general symptoms are present do not

note slight ocular defects, and no examination of the fundus is made.

From a few examinations made in the wards of a general hospital, taking all cases of chronic renal disease admitted, I am inclined to believe that such changes are present in a majority of advanced cases. The recurrent conjunctivitis described in the paper is, I think, the same condition which Jonathan Hutchison enumerates among the symptoms of gout, calling it the "hot eye." Conjunctival hemorrhages are often found in these cases, but are, as a rule, associated with retinal hemorrhages, and sometimes even precede them.

DR. A. C. BRUSH: It seems to me that there is one question to be considered here: whether all these symptoms are due to the kidney lesion, or whether both are not due to the same general systemic poisoning. Samoli, ten years ago, pointed out the fact that brain-workers have an excess of phosphates in their urine, and sooner or later suffer from renal disease from the local irritation, and we know that such substances as alcohol and the poisons of rheumatism, gout, and the bacterial products found in other diseases are capable of causing severe renal trouble with their other manifestations. It is also believed that the ptomaines developed in digestive disturbances may be followed by kidney trouble. The earlier symptoms, too, are often those of a general neurasthenia due to the toxemia. It is these patients who complain of singing noises in the head, of hearing bells, of flashes of light and small objects before the eyes, of insomnia, irritability, loss of memory, neuralgias, and other disturbances of general sensation. It has been lately shown that 37 per cent. of the patients admitted to the asylum suffer from chronic renal disease, which is believed by some to be the cause of the insanity.

DR. BIERWIRTH: I have not much to say in closing. I have discarded the test of which Dr. Lloyd spoke, as I have others of the contact method. I have for years discarded the nitric acid method, because it does not detect with sufficient accuracy. You do not know positively whether you have a trace of albumin or not, the difficulty lying in the fact that the coloring matter of the urine is so darkened by the nitric acid that a trace of albumin cannot be detected at the point of contact. The contact method always makes me feel uncomfortable, because it does not give me positive results, and I have to examine further with other tests.

As regards the progress of the disease, I thoroughly agree with Dr. Lloyd. There are elderly people, people of fifty or sixty years of age, who suffer from chronic Bright's disease, and who live very comfortably, but they must live in a certain way. It is absolutely essential for these people to stay indoors, say from October through the winter, and that is one of the reasons why it is well for them to live in an equable climate during the winter. A patient of mine died a week ago who had had chronic Bright's disease for years, and died just as a number of cases do. She had three attacks in one month, and she died because she was exposed to a cold draft. The greatest trouble with cases of acute Bright's disease is that they occur in persons of active life who find it very difficult

to realize that they have to take care of themselves. A man may live for ten, fifteen, or twenty years even, if he will only take good care of himself and live in the way which I have indicated. I have a patient who is a very good example of this. A woman who had always been well until the disease of the kidneys appeared and who could not understand the importance of taking care of herself. She had several very severe attacks of acute exacerbation and nearly died in one of them, and ever since then she has been extremely careful and consequently fairly well. That is one of the cases of elderly people who live very comfortably and live a long time. But as I say, persons of active business habits have great difficulty in accustoming themselves to taking care of themselves, and thus there are dozens of men under ground who should be alive; men who led active business lives, to whom I said five years ago that they must stop, they must have rest, they must give up and go home and take care of themselves; they could not accustom themselves to it and so they have suffered the consequences. I know a case of a gentleman over seventy years of age who could not for months get it into his mind that he must stay indoors, until he had a couple of attacks, which were attributed to his having been exposed and taking cold, and he has now learned to take care of himself and is living very comfortably, although, in my judgment, he has very serious kidney trouble. Another very important point which Dr. Lloyd has made and in which I agree with him, is the necessity for frequent and continued examination for hyaline and granular casts. I have seen cases of simple albuminuria of which he speaks, and I regard them with a great deal of suspicion. I think you will find that most of them, if you watch for a sufficiently long time, will be very apt to prove cases of Bright's disease and not simply cases of functional disturbances. This disease begins in a most insidious way and it may take years—four, five, or six years—before it shows itself plainly. If a patient is in active business life it is hard for him to understand at once that he has to take care of himself, but if he does, the disease makes but slight progress. I have been frequently struck with the uselessness of the examination of urine in life insurance, because a man may present himself before the examiner before or after a meal, or between meals, or far from them, and the urine taken in these cases, especially in examinations of persons past middle life, are practically useless, because sufficient time cannot be given to them to make the examination properly. In my judgment and observation, life insurance examination of the urine, therefore, is practically useless. The patient may, if he is honest, give a correct history of himself or he may not. I remember a man whom I examined. The only thing that I could find was a rapid pulse—112—but his urine contained about 5 per cent. of albumin. This was a case of a man who thought himself perfectly well, and who had gone on for years without any knowledge that he had anything serious the matter with him. Again there are many cases where people suddenly develop symptoms of coma. I recall the case of a gentleman who felt drowsy, and from this he rapidly drifted into coma and from coma into death, and after death it was found that he had marked disease of

the kidneys, yet during life he had never given an exhibition of a single symptom. These repeat themselves over and over again. They are not of very rare occurrence and that is why I lay so much stress upon the importance of frequent examinations of the urine. In many of these cases they only show a trace of albumin even up to the time of death. I have known cases to end fatally in which there was nothing more than a trace of albumin up to the time of death, and so I repeat: this all shows us the extreme importance of great care in examinations of urine, and especially of making frequent tests for urea.

REVIEWS.

THE YEAR-BOOK OF TREATMENT FOR 1896. A Critical Review for Practitioners of Medicine and Surgery. 12mo, 484 pages. Philadelphia: Lea Brothers & Co., Publishers, 1896.

THIS little volume, which is compiled by several of the best known clinicians of Great Britain, has, unlike many compilations that pass as medical literature, a real purpose. It gives within the confines of 500 pages a review and an estimation of all that has been done in the civilized world to advance the purpose of our art and our science as observed by men who are capable of dispassionate criticism. A careful examination of the Yearbook for 1896 shows it to be abreast, if not in advance, of its predecessors. A more equitable allotment of space to subjects of equal importance might have been made by the editor. For instance, the diseases of the heart and lungs are given sixty pages, while fourteen are allotted to diseases of the eye, and thirty to diseases of the mind and nervous system, and more than one-half of the volume is taken up by a consideration of general and special surgery.

The chapter on anesthetics is carefully prepared, and particularly useful are the illustrated pages devoted to new apparatus for anesthesia. The pathogenesis of diphtheria and the present status of antitoxin in the treatment of this disease are considered in praiseworthy detail. It is admitted by every one who has had experience with antitoxin treatment, that one of the first claims of the advocates of the antitoxin plan of treatment to have been found wanting was that it would diminish the frequency of paralysis after diphtheria. Dr. Phillips quotes approvingly evidence to show that paralysis becomes more frequent after treatment.

The universal activity in operative surgery, and its triumphs, are set forth convincingly, yet we notice a few serious omissions. The notable address of v. Bergmann before the Congress of German Surgeons last year, the really wonderful report made by Kocher, on operation for goitre, and some other important contributions have been overlooked.

Another matter that cannot fail to strike the critical reader of medical literature is that sufficient discrimination is not made between contributions whose apparent aim it is to advance the science of medicine, but whose real purpose is to contribute to the selling qualities of the substance or preparation which the writer claims to have found so useful, and real, genuine, honest expressions of

experience and judgment. It is a matter of regret that physicians are found who will prostitute their names and their reputations in this manner, but they are, and we are powerless to prevent it. We can, however, avoid disseminating their canards, and we expect their critics and mentors to do so.

The Yearbook is to be congratulated on the comparative freedom which it has from such references, but it may be still further purged.

We have no hesitancy in saying that this little volume will be found most serviceable to the general practitioner.

An appended selected list of new books is a commendable feature.

A TEXT-BOOK OF FORENSIC MEDICINE AND TOXICOLOGY. By ARTHUR P. LUFF, M.D., Lecturer on Medical Jurisprudence and Toxicology in St. Mary's Hospital. In two volumes, small 8vo. Vol. I, 416 pages. Vol. II, 334 pages and Index. London and New York: Longmans, Green & Co.

THIS is a compact and useful compendium of medical jurisprudence and toxicology. It is illustrated with twelve full-page plates and fifty-seven figures in the text. One of these plates, representing various blood-spectra, is in colors. All the illustrations are well executed and the general typography is excellent.

The matter of the book is well selected and arranged, and follows the usual order of treatises of this character. The toxicology covers over 300 pages, being all included in the first volume. This is not an undue proportion for so important a subject. Experience in this country shows that physicians are more liable to err in the diagnosis of cases of poisoning, or, at least, to mistake them for disease, than in almost any other field of work. We are glad to note that a considerable space is given to Reinsch's test for arsenic. The ingenious method described for securing the crystalline sublimate on the surface of a glass slip, so that it can be examined under the microscope, will be of much use. Dr. Luff does not think it possible to determine from the measurements of the corpuscles that the blood was positively human blood, but thinks that it is only safe to say that it is mammalian blood. This is a wise and conservative view. Much injury has been done to the cause of expert testimony by the readiness of certain experts to testify positively in this and similar cases in which positiveness cannot be attained.

The treatment of all the topics seems to be excellently proportioned, and we consider the work to be a most valuable addition to the literature of the subject.

MEDICAL AND SURGICAL REPORT OF THE CHILDREN'S HOSPITAL, 1869-1894. Edited by T. M. ROTCH, M.D., and HUBERT L. BURRELL, M.D. Boston: Published by the Board of Managers, 1895.

THIS handsome volume of 367 pages is published with the view of "presenting to the community, first, the history of an institution organized and maintained for the care of sick and disabled children; secondly, in order to show, by the contributions of the members of its medical staff, how much good work has been done, and the most efficient methods known to medical science of

accomplishing its object; and, thirdly, of offering carefully prepared articles, based largely on the practice of the hospital, on various topics of importance in the science of medicine." For this purpose the matter is divided into three parts, under the headings "Administrative," "Medical," and "Surgical." Of these the last takes up fully two-thirds of the volume, and presents quite a comprehensive view of this branch of the hospital's work and of its methods of treatment. Orthopedics naturally holds a prominent place, and is quite fully illustrated. The medical division embraces only seven short papers, which, however, are of unusual interest. It is to be regretted that greater space was not devoted to this portion of the hospital's service.

The volume is a handsome specimen of bookmaking, and is creditable alike to the institution whose work it thus brings to public notice and to the various members of the staff whose unselfish labors have made the hospital what it is to-day.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY. Being a yearly digest of scientific progress and authoritative opinion in all branches of medicine and surgery, drawn from journals, monographs, and text-books of the leading American and foreign authors and investigators. Collected and arranged with critical editorial comments by a large corps of collaborators (twenty-seven) under the general editorial charge of **GEORGE M. GOULD, M.D.** Profusely illustrated with numerous woodcuts in text and thirty-three handsome half-tone and colored plates. Large, 8vo. Pp. 1183. W. B. Saunders, Philadelphia, 1896.

If professional writers ever read, they get a part of their just punishment when, in the avalanche of literature falling about us on every side, they may occasionally try to look up a special subject or find a certain article. It is not that too much ink is spilt, but because it is too widely spilt in small channels and gullies which never unite to make a navigable stream, that we complain.

It is, therefore, with gratitude that we hail all properly constructed "Year-books" in which men of wide reading, of practical knowledge, and capable of judicial criticism collect a summary of each year's medical progress. To a certain extent they save us from the clutches of those flatulent scribes who write on such subjects as "Unilateral Polymerism of the Fimbriæ of the Fallopian Tube as a Cause of Climacteric Scoliosis," or "The Treatment of Sterility by the Instillation of the Fresh Juice of an Extradomiciliary Orchid." Of course, we cannot depend wholly upon "year-books," but they lighten our running struggle with current medical literature.

As to the present publication, the distinguished names connected with the *résumé* of each subject and the scholarly and professional eminence of the editor are sufficient guarantees for its excellence. By no means of the least worth are the editorial comments (enclosed in brackets) upon new suggestions or matters in dispute.

It would seem as though hardly enough space, fifty-four pages, had been allotted to materia medica, experimental therapeutics, and pharmacology, but a closer perusal may

demonstrate that the deficiency is made good under each specialty.

The work would be improved if a uniform system of weights, measures, and thermometric readings had been employed throughout. As it is, grains and grams, Fahrenheit, and Centigrade, appear, sometimes on the same page.

The publisher's work has been well done. The print is large and clear, the illustrations copious and demonstrative.

ELEMENTARY TECHNIQUE IN HISTOLOGY AND BACTERIOLOGY. By **ERNEST B. HOAG, A.B., B.S.**, Instructor in Zoology and Physiology, Throop Polytechnic Institute, Pasadena, Cal., and **H. KAHN, Pharm.** (Mich.), Assistant Demonstrator in Bacteriology, Northwestern University Medical School, Chicago. E. H. Colegrove & Co., Chicago, 1896.

THIS is a compend of 130 pages for beginners in histology and bacteriology, describing the various methods of staining and preparation of tissue for microscopic study. No attempt is made to introduce descriptive histology. The book is poorly printed, and for a work intended for beginners contains too many technical abbreviations. It is, however, up to date, and will no doubt be useful to those for whom it was intended.

ANNOUNCEMENTS.

MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

THE forty-seventh annual Session of the American Medical Association will be held in Atlanta, Ga., on Tuesday, Wednesday, Thursday, and Friday, May 5, 6, 7, and 8, commencing on Tuesday, at 10 A.M.

OFFICERS OF SECTIONS.

1. Practice of Medicine.—Wm. E. Quine, Chicago, Ill., chairman; DeLancey Rochester, Buffalo, N. Y., secretary.
2. Obstetrics and Diseases of Women.—J. Tabor Johnson, Washington, D. C., chairman; Reuben Peterson, Grand Rapids, Mich., secretary.
3. Surgery and Anatomy.—C. A. Wheaton, St. Paul, Minn., chairman; Wm. L. Estes, South Bethlehem, Pa., secretary.
4. State Medicine.—Chas. H. Shepard, Brooklyn, N. Y., chairman; Elmer Lee, Chicago, Ill., secretary.
5. Ophthalmology.—Lucien Howe, Buffalo, N. Y., chairman; Frank Allport, Minneapolis, Minn., secretary.
6. Diseases of Children.—A. C. Cotton, Chicago, Ill., chairman; A. J. Work, Elkhart, Ind., secretary.
7. Dental and Oral Surgery.—R. R. Andrews, Cambridge, Mass., chairman; Eugene S. Talbot, Chicago, Ill., secretary.
8. Neurology and Medical Jurisprudence.—Thos. D. Crothers, Hartford, Conn., chairman; W. J. Herdman, Ann Arbor, Mich., secretary.
9. Dermatology and Syphilography.—L. D. Bulkley,

New York, chairman; T. C. Gilchrist, Baltimore, Md., secretary.

10. Laryngology and Otology.—G. V. Woolen, Indianapolis, Ind., chairman; M. R. Ward, Pittsburgh, Pa., secretary.

11. Materia Medica and Pharmacy.—F. E. Stewart, Detroit, Mich., chairman; W. B. Hill, Milwaukee, Wis., secretary.

12. Physiology and Dietetics.—H. Bert Ellis, Los Angeles, Cal., chairman; Henry Salzer, Baltimore, Md., secretary.

WM. B. ATKINSON,
Permanent Secretary.

BROAD AND PINE STREETS, PHILADELPHIA.

THE CARTWRIGHT LECTURES.

THE Cartwright Lectures of the College of Physicians and Surgeons for 1896 will be given by George S. Huntington, A.M., M.D., Professor of Anatomy in the Medical Department of Columbia University, New York.

1. Lecture, Wednesday, April 8th.—Morphology of the Ileo-colic Junction and Large Intestine in Vertebrates.

2. Lecture, Wednesday, April 15th.—Evolution of Human Cæcum and Vermiform Appendix, and Probable Lines of Derivation of the Corresponding Structures in the Other Vertebrates.

3. Lecture, Wednesday, April 22d.—Morphology of the Bronchial System and Its Relation to the Pulmonary Vascular Supply in Mammalia.

The lectures will be given in the hall of the New York Academy of Medicine, 17 West Forty-third Street, on the above dates, at 8.15 o'clock, P.M.

Committee: D. Bryson Delavan, Wm. K. Draper, Saml. W. Lambert.

OFFICIAL LIST OF THE CHANGES OF STATION AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FROM FEBRUARY 1ST TO MARCH 16TH, 1896.

MURRAY, R. D., Surgeon. When relieved at Tortugas Quarantine, to proceed to Mobile, Ala., and assume command of service, February 19, 1896.

PECKHAM, C. T., P. A. Surgeon. To proceed from San Francisco Quarantine to Port Townsend, Wash., and assume command of service, February 6, 1896.

KALLOCH, P. C., P. A. Surgeon. When relieved at Cincinnati, Ohio, to proceed to Charleston, S. C., and assume command of service, February 6, 1896.

WILLIAMS, L. L., P. A. Surgeon. When relieved at Charleston, S. C., to report at Bureau, and then to proceed to Tortugas Quarantine and assume command of station, February 6, 1896.

VAUGHAN, G. T., P. A. Surgeon. Granted leave of absence for seven days, February 17, 1896.

COBB, J. O., P. A. Surgeon. When relieved at Port Townsend, Wash., to proceed to Cincinnati, Ohio, and assume command of service, February 6, 1896.

GEDDINGS, H. D., P. A. Surgeon. When relieved at South-Atlantic Quarantine, to report at Bureau for duty, February 6, 1896.

ROSENAU, M. J., P. A. Surgeon. To assume command of the San-Francisco Quarantine, February 6, 1896.

NYDEGGER, J. A., Assistant Surgeon. To proceed from Washington, D. C., to Reedy Island Quarantine, for special temporary

duty, February 17, 1896. To report at Bureau preparatory to assuming command of South Atlantic Quarantine, February 19, 1896.

VAUGHAN, G. T., P. A. Surgeon. Leave of absence for seven days, granted February 17, 1896, revoked February 27, 1896.

GUIERAS, G. M., P. A. Surgeon. Directed to proceed, on March 25, 1896, from Gulf Quarantine Station to Key West, Fla., and assume command of Service, February 27, 1896.

SMITH, A. C., P. A. Surgeon. To proceed from Memphis, Tenn., to Gulf Quarantine for duty, February 25, 1896.

YOUNG, G. B., P. A. Surgeon. When relieved at Key West, Fla., to proceed to Memphis, Tenn., and assume command of Service, February 27, 1896.

WICKES, H. W., Assistant Surgeon. To assume temporary command of Service at Memphis, Tenn. Upon being relieved, to rejoin station at New Orleans, February 24, 1896.

HAMILTON, J. B., Surgeon. Granted leave of absence for four days, March 16, 1896.

IRWIN FAIRFAX, Surgeon. To inspect service at Havana, Cuba, and quarantine stations in the South, March 2, 1896.

CARRINGTON, P. M., P. A. Surgeon. Granted leave of absence for thirty days, March 16, 1896.

NYDEGGER, J. A., Assistant Surgeon. To Report at Bureau for Instructions, March 6, 1896. To proceed from Washington, D. C., to South Atlantic Quarantine and assume command March 7, 1896.

PROCHAZKA, EMIL, Assistant Surgeon. Granted leave of absence for ten days, March 11, 1896.

RESIGNATION.

STRAYER, EDGAR, Assistant Surgeon. Resignation accepted, to take effect February 14, 1896.

BOARD CONVENED.

Board to examine and report on schedule of subsistence for seamen on merchant vessels of the U. S., to meet in Washington, D. C., March 16, 1896. Surgeon P. H. Bailhache, chairman; P. A. Surgeon C. E. Banks and P. A. Surgeon J. J. Kinyoun, recorders.

CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FROM FEBRUARY 27TH, 1896, TO MARCH 30TH, 1896.

February 27.—Assistant Surgeon J. C. ROSENBLEUTH detached from the Naval Laboratory and ordered to the "Raleigh."

Assistant Surgeon E. M. SHIPP detached from the "Raleigh" and ordered to the "Vermont."

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 25, 1896, TO MARCH 30, 1896.

The leave of absence on surgeon's certificate of disability, granted Captain Benjamin Munday, Assistant Surgeon, is extended two months, on account of sickness.

Leave of absence for one month, to take effect upon his relief from duty at Jefferson Barracks, Missouri, is granted Major Robert H. White, Surgeon.

The following named officers of the Medical Department are relieved from duty in Washington, to take effect upon the completion of the present course of instruction at the Army Medical School, and are assigned to duty at the following named stations:

First Lieutenant Thomas J. Kirkpatrick, Assistant Surgeon, Fort Columbus, N. Y., for temporary duty.

First Lieutenant John H. Stone, Assistant Surgeon, Fort Leavenworth, Kan.

First Lieutenant Irving W. Rand, Assistant Surgeon, Fort Apache, Ariz.

First Lieutenant Powell C. Fauntleroy, Assistant Surgeon, Fort Riley, Kan.

First Lieutenant James S. Wilson, Assistant Surgeon, Madison Barracks, N. Y., for temporary duty.